The Journal
OF THE KANSAS MEDICAL SOCIETY

In This Issue

THE CLINICAL APPLICATIONS OF RADIOACTIVE ISOTOPES IN SMALL HOSPITALS — Frank E. Hoecker, Ph.D., Lawrence, Kansas, and Homer L. Hiebert, M.D., Topeka, Kansas . . . . . Page 273

RECURRENT HYPERTHYROIDISM WITH THYROID CRISIS AND VENTRICULAR TACHYCARDIA SUCCESSFULLY TREATED WITH RADIOACTIVE IODINE (I^{131}): A CASE REPORT—D. R. Bedford, M.D., F. E. Hoecker, Ph.D., and H. L. Hiebert, M.D., Topeka, Kansas . . . . . Page 276

THE USE OF TRACHEOTOMY, INTERMITTENT POSITIVE PRESSURE AND SEDATION IN THE TREATMENT OF CHILDREN SEVERELY ILL WITH POLIOMYELITIS—Jacqueline Baumeister, M.D., Mary J. Blood, M.D., Alice Marsh, M.D., and Alex Roth, M.D., Kansas City, Kansas . . . . . Page 280

EXSANGUINATION FROM PAPILLOMA OF JEJUNUM —Cecil C. Hunnicutt, M.D., Sabetha, Kansas Page 285

COMPLETE TABLE OF CONTENTS . . . . Page IV

JUNE, 1952 Vol. LIII, No. 6

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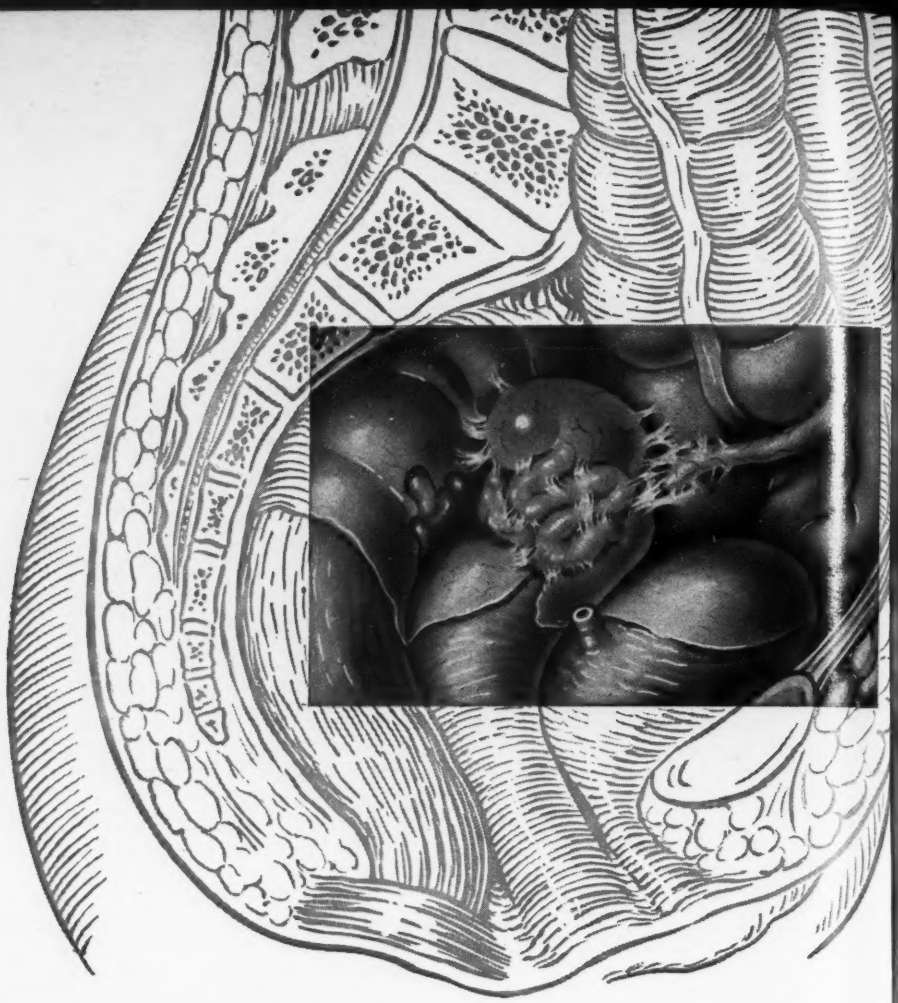

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1. Greene, G. G.: Kentucky M. J. *50*:8, 1952.
2. Stevenson, C. S., et al.: Am. J. Obst. & Gynec. *61*:498, 1951.

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TABLE OF CONTENTS

JUNE, 1952

ORIGINAL ARTICLES

The Clinical Applications of Radioactive Isotopes in Small Hospitals—Frank E. Hoecker, Ph.D., Lawrence, Kansas, and Homer L. Hiebert, M.D., Topeka, Kansas 273

Recurrent Hyperthyroidism with Thyroid Crisis and Ventricular Tachycardia Successfully Treated with Radioactive Iodine (I^{131}): A Case Report—D. R. Bedford, M.D., F. E. Hoecker, Ph.D., and H. L. Hiebert, M.D., Topeka, Kansas..... 276

The Use of Tracheotomy, Intermittent Positive Pressure and Sedation in the Treatment of Children Severly Ill with Poliomyelitis — Jacqueline Baumeister, M.D., Mary J. Blood, M.D., Alice Marsh, M.D., and Alex Roth, M.D., Kansas City, Kansas 280

Exsanguination from Papilloma of Jejunum—Cecil C. Hunnicutt, M.D., Sabetha, Kansas 285

EDITORIALS

New Dean at Medical School..... 287

The Doctor in Politics 287

Political Skirmish 288

And One to Grow On 289

MISCELLANEOUS

President's Page 286

93rd Annual Session, Kansas Medical Society 290

Case Reports from the University of Kansas Medical Center 297

Senior Thesis from the University of Kansas Medical School 304

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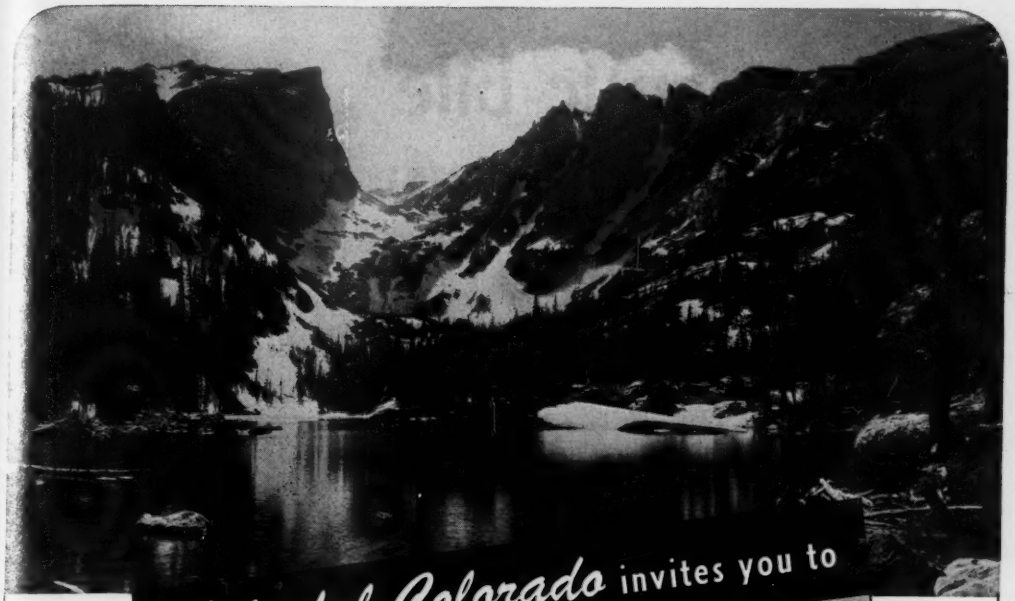

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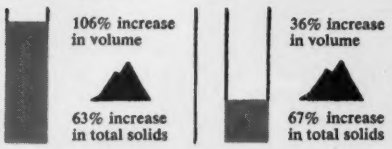

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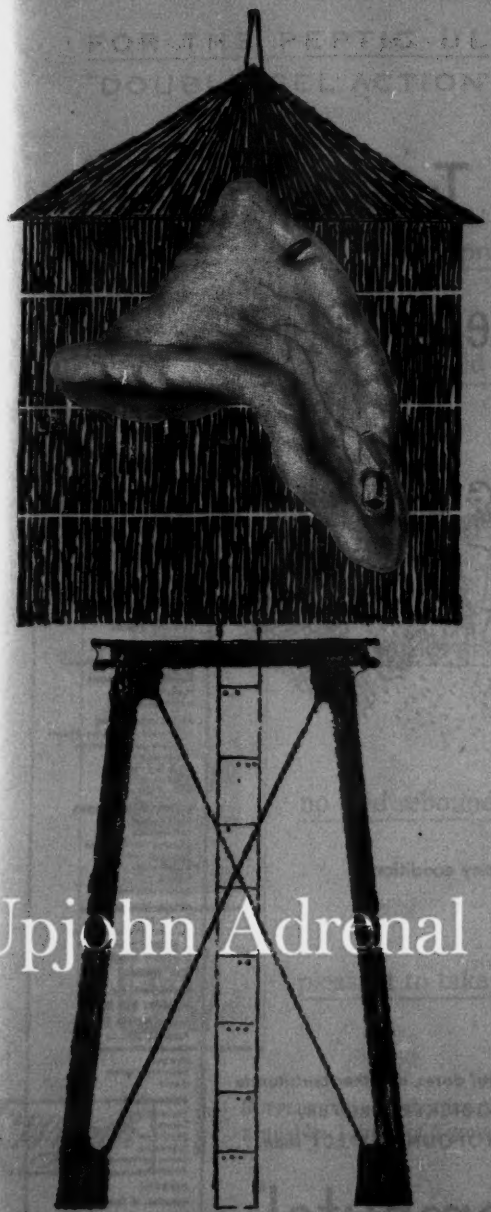

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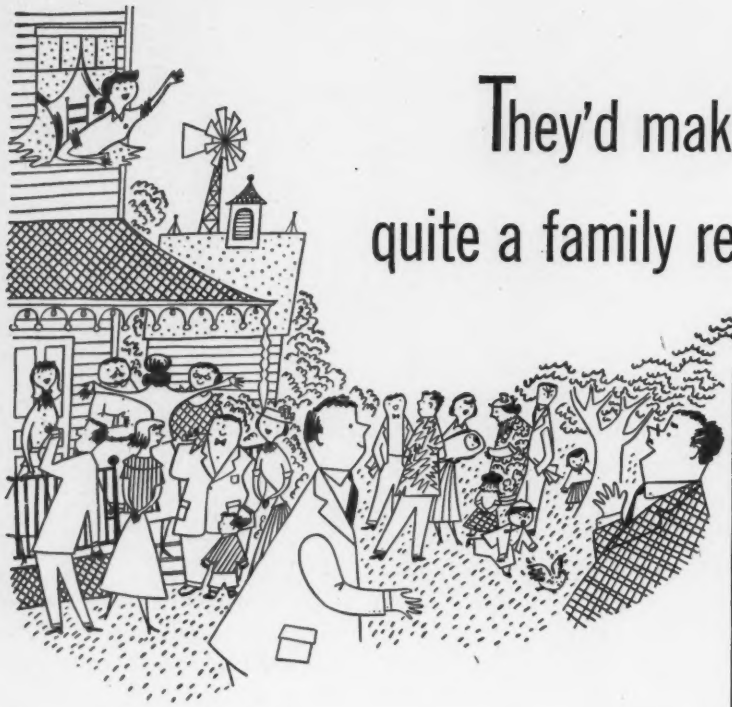

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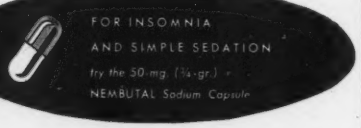

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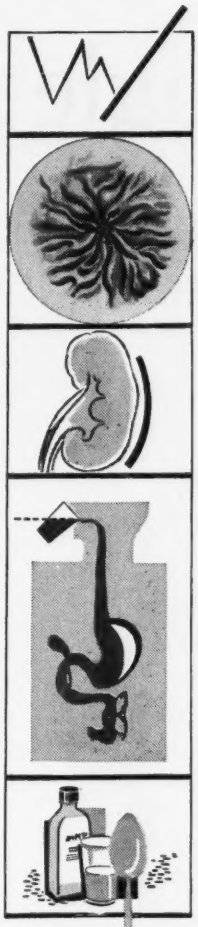

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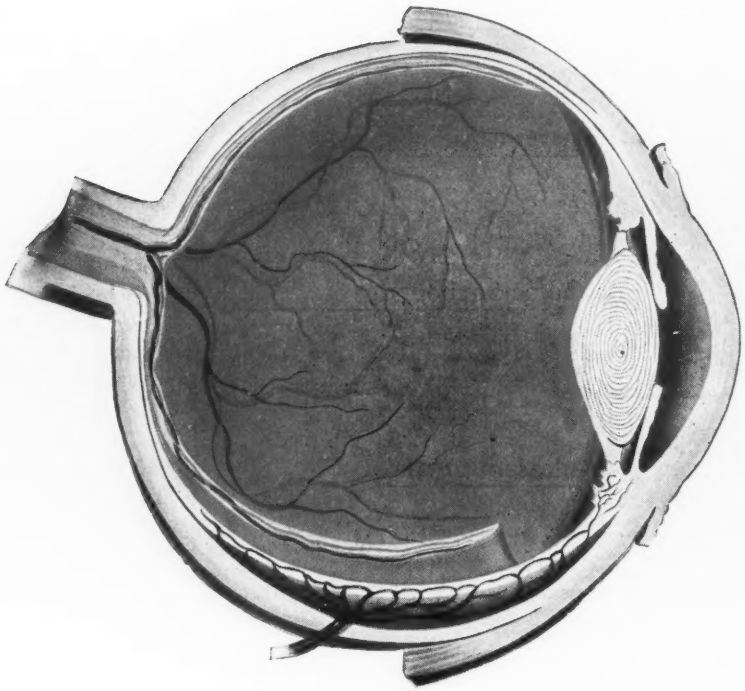

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1. Mitsui, Y., et al.: *Antibiotics & Chemotherapy* 1:253 (July) 1951.
2. Mitsui, Y., and Tanaka, C.: *Antibiotics & Chemotherapy* 1:144 (May) 1951.

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Harvard Medical School, New England Jr. Med., vol. 241, no. 14, 1949, p. 529 ft.

Pathologically Speaking

Rh SENSITIZATION DURING PREGNANCY

APPROXIMATELY one out of two hundred deliveries yields an erythroblastotic baby due to sensitization in an Rh-negative mother by an Rh-positive fetus. The use of certain laboratory tests *at appropriate intervals* during pregnancy serves to alert the physician to the possibility that the child may be erythroblastotic, but even highly significant-appearing data do not allow the certain prediction of erythroblastosis.

I. At the first prenatal visit, determine
   1. The patient's Rh type.
   2. If the patient is Rh-negative, determine husband's Rh type.
   3. If the patient is Rh-negative and the husband Rh-positive, do a genotype on the husband's blood; if he is homozygous for Rh, the children should all be Rh-positive; if he is heterozygous, 50% of the children may be Rh-positive and 50% Rh-negative.
   4. If the patient is Rh-negative, determine anti-Rh titer.
      a. If she has had no previous pregnancies nor any transfusion (intravenously or intramuscularly) of Rh-positive blood any time in the past, she should not have Rh antibodies; those from the current pregnancy should not appear until after the fifth month of gestation.
      b. If the patient has had no previous pregnancy but has had one or more transfusions any time in the past and if she shows Rh antibodies in the first five months of gestation, they are presumed to have been derived from Rh-positive cells which were present in the transfused blood. Due to such prior sensitization, these mothers may have an erythroblastotic infant in their first pregnancy.
      c. If the patient shows Rh antibodies and has had previous pregnancies with Rh-positive babies, any antibodies present in the first five months of pregnancy are presumed to be residual from the sensitization during previous pregnancies.

II. At 34 weeks' gestation
   1. Determine anti-Rh titer
   2. Check for blocking (incomplete) antibodies (Coombs test). If either complete or incomplete antibodies have appeared or if the anti-Rh titer previously present has risen, it is evidence that the child will necessarily have erythroblastosis.

III. At 36 weeks' gestation
   1. Determine anti-Rh titer
   2. Check for blocking antibodies (Coombs test). If progressive antibody formation has occurred (i.e., higher titer), the *possibility* of erythroblastosis becomes stronger, and it then behooves the obstetrician to plan for the delivery of the mother and the immediate care of the infant as he would for an erythroblastotic case.

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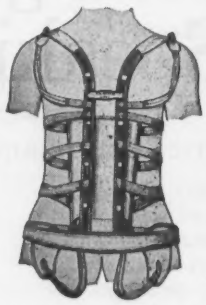

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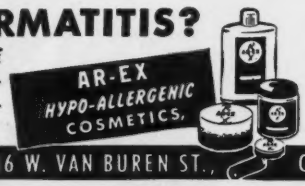

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The Clinical Applications of Radioactive Isotopes in Small Hospitals

Frank E. Hoecker, Ph.D.,* and Homer L. Hiebert, M.D.
Lawrence, Kansas Topeka, Kansas

During the approximately five-year period in which artificially radioactive substances have been available in large quantities for clinical applications, their use has been confined almost entirely to the larger centers of population. The more or less routine use of radioactive iodine and radioactive phosphorus has, in many cases, been the natural outgrowth of early studies in research laboratories connected with large hospitals or medical schools. In these large institutions the necessary laboratory facilities and trained personnel are already available. On the other hand, such specialized facilities and staff are seldom available to the hospitals in small communities. As a consequence, the advantages of diagnosis or treatment based on the use of radioactive isotopes are not at this time generally accessible to the less densely populated areas of the country.

The writers, in close cooperation with the physicians and hospitals of the Topeka area, have undertaken to develop a program which makes these advantages available to the people of this community. In setting up this program, under somewhat less than ideal conditions so far as laboratory facilities and staff time are concerned, a number of problems have been encountered which might be typical of any attempt made under similar circumstances. It is our purpose to discuss these problems and to indicate what appear to be reasonable methods of overcoming certain limitations.

All applications of radioactive substances, whether in research, in industry or in medicine, are fraught with considerable danger, the actual degree being dependent upon the amount used, the particular material used and the purpose and manner of use. This is especially true in clinical applications because the exigencies of such uses may endanger not only the patient and the person who administers the material but also the hospital and community as well. These circumstances have exerted a severely restrictive influence on the spread of treatment and diagnosis by means of radioactive substances. These materials must, therefore, be used only with proper laboratory equipment and by specially trained individuals.

Nevertheless, in the presence of adequate equipment and in the hands of properly trained personnel, the application of carefully chosen radioactive isotopes for clinical purposes provides unique advantages not available through any other medium. However, the avoidance of danger to the patient imposes strict limitations on the choice of radioactive substances. The life of the substance in the body and the amount of energy liberated in the tissue must be carefully considered. Furthermore, the differential absorption of the radioisotope in the body must be known. The latter constitutes the most severe therapeutic limitation since it must be highly absorbed by the tissues to be treated and absorbed only slightly or not at all by other tissues.

In effect, the above considerations limit the internal use of radioactive isotopes at present, both diagnostically and therapeutically, to only four or five. The most useful one at present is radioactive iodine, I^{131}. Perhaps second on the list comes radiophosphorus, P^{32}, while radiosodium and radiogold come probably third and fourth. Other substances are even more rarely used.

It would be a mistake to infer that either the diagnostic or therapeutic use of any of these substances is standardized. Neither the mode of administration, the amount administered, nor the technique of interpretation is yet reduced to a generally accepted procedure. Perhaps least of all is the equipment either dependable or standardized. The internal

*Radiophysicist, University of Kansas.

clinical applications of radioactive substances are now in a stage comparable to that of x-rays 40 years ago. Such uses are still in the research phase and require the expenditure of unexpectedly large amounts of time on the part of the technical staff.

It is, of course, well known that complete control over the use of radioactive isotopes is exercised by the United States Atomic Energy Commission. Permission to obtain these substances for administration to human beings is obtainable only by an institution, not by an individual, and then only when the commission is satisfied with respect to the possession by the hospital of adequate facilities and the availability of properly trained personnel. The matter of facilities can usually be taken care of by any hospital which is willing to assign laboratory space and spend a sum of from $3,000 to $5,000 for specialized equipment.

Trained personnel are not always so easily provided. The Atomic Energy Commission requires that the hospital appoint an isotopes committee composed of members of its staff. It should comprise an internist, a pathologist, a radiologist with training and experience in administration of radioactive isotopes, and a radiophysicist. At present the number of radiologists with the requisite training and experience is small, while the number of radiophysicists who are able to devote a portion of their time to hospital work and are at the same time accessible to the hospital is extremely small.

The organization of the Topeka isotope program began in late 1950, when a small group of local physicians discussed with one of the writers (H.L.H.) the possibilities of bringing radioactive materials to the community. The undertaking seemed feasible provided that consultation services of a radiophysicist could be obtained.

This was solved through the University of Kansas which made available a certified radiophysicist (F.E.H.).

Laboratory space was offered by St. Francis Hospital and Stormont-Vail Hospitals. Space was immediately available in Vail Hospital and the laboratory was established there for that reason. The necessary funds for the purchase of equipment were provided through the cooperative efforts of the executive director and the trustees of Stormont-Vail Hospitals.

A number of interested physicians asked for a preparatory orientation course in the diagnostic and therapeutic uses of radioisotopes. The course, "The Medical Application of Radioactive Isotopes" (32 lecture hours), was arranged through the University of Kansas Extension Division, and was given by one of the writers (F.E.H.) to 25 enrolled physicians.

Our first isotope clinic was held in July, 1951. Diagnostic tracer studies with I^{131} were done on seven patients, and one patient in thyroid crisis was treated with I^{131}. Dr. Kenneth E. Corrigan, director of radiation research and in charge of the isotope laboratory in Harper Hospital, Detroit, Michigan, assisted with the studies and gave additional impetus to the program with illustrated lectures to the physicians.

It was indicated earlier that radioactive iodine I^{131}, has at present wider application in clinical medicine than any other radioisotope. This follows in consequence of its almost ideal physical properties—a convenient half-life, the emission of beta particles which impart a localized tissue dose, and the emission of gamma rays which permit external measurements in vivo. It has also the rare biochemical property of almost perfect localization in the thyroid gland within a few hours after its administration.

It has been established that the measurement of the rate of uptake and the total uptake of I^{131} by the thyroid gland, together with excretion studies, yields diagnostic information which is more dependable than the measurement of the basal metabolic rate.[1] This is unquestionably true in the case of uncooperative patients and children.

The therapeutic use of I^{131} in the control of hyperthyroidism appears to be the treatment of choice in selected cases. Complete or partial thyroidectomy through accurate control of dose can be performed without hospitalization of the patient.

For these and other reasons, our radioisotopes program at Topeka was initiated with the diagnostic use, and quickly expanded to include the therapeutic use of I^{131}.

The amount of information gained from these studies is, of course, a function of the amount of time devoted to the work. The writers have felt that detailed measurements of uptake in various portions of the thyroid yield diagnostic information well worth the additional time required. Careful surveys are, therefore, made on each patient four times during the first 24 hours by placing a shielded end-window Geiger counter in contact with the skin over the thyroid area. An indicating, computing rate meter, the Raychronometer, is used to determine the counting rate at each point of measurement. The resulting data furnish a clear picture of the rate of uptake in various portions of the gland. In addition to asymmetry of function, toxic adenomas, aberrant thyroid tissue, and other abnormalities are clearly revealed. Such information, not obtainable from the widely used distance-count method, is often of critical importance to the surgeon if surgical intervention is indicated.

Early research work on the diagnostic use of I^{131}

almost invariably included measurement of the rate of excretion in the urine. There is little doubt of the diagnostic value of such measurements,[2] but excretion measurements are, when performed by customary methods, exceedingly time consuming. The usual method is to assay a portion of each specimen, either by evaporating the sample to dryness or by direct counting of the wet sample. The time involved and the trouble of saving all excreted specimens have tended to discourage the making of excretion studies in routine clinical use.

Our conviction of the value of excretion studies has led to the development in our laboratory of a rapid, semi-automatic method[3] of making the assays required by the excretion studies. The assay of all specimens excreted by 10 patients in 36 hours can now be performed by one person in a period of about four hours. The diagnostic value of the excretion studies is well worth this expenditure of time.

It should be borne in mind that this program was initiated with the objective of testing the feasibility of bringing the clinical advantages of the radioactive isotope method into community hospital practice. No attempt has been made to solicit cases nor to influence physicians in favor of this method. The number of cases accepted for diagnosis has been held to that which could be handled within limitations of a predetermined time and without sacrifice of completeness of study.

To date, eight monthly sessions have been held. Fifty-eight radioactive iodine tracer studies have been made, and 18 therapeutic doses of I^{131} administered for thyrotoxicosis. In addition, two cases of polycythemia vera, one multiple myeloma, and one case of skeletal metastases have been treated with radioactive phosphorus.

It is our future aim to further expand the isotope laboratory to accommodate the increasing patient load and to include other radioactive materials as they become available. This, we believe, can be accomplished by: (1) substituting mechanical devices for technical assistance wherever possible; and (2) by training existing hospital personnel to do much of the routine work, including sample measurements, thus giving the radiophysicist and radiologist more time to analyze and to evaluate the results.

Finally, it is hoped that our experience may be of some benefit to other community medical centers interested in establishing a clinical isotope program. To these ends, Dr. Franklin D. Murphy, chancellor of the University of Kansas, has endorsed our project and pledged the continued support of the University of Kansas for technical assistance within the limits of its facilities.

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3. Descriptive article to be published.

AN APOLOGY

The Editorial Board regrets that the May issue of the Journal was delayed considerably beyond its normal delivery date. The much used and trite explanation "for reasons beyond our control" actually applies in this instance. The printer was unable to perform his usual services for the Journal at the scheduled time last month, and in spite of some effort on the part of the editorial staff this temporary problem could not be adjusted. The Editorial Board is now of the opinion that a similar occurrence will not soon be repeated and wishes to thank its readers for their indulgence.

Recurrent Hyperthyroidism with Thyroid Crisis and Ventricular Tachycardia Successfully Treated with Radioactive Iodine (I^{131}): A Case Report*

D. R. Bedford, M.D., F. E. Hoecker, Ph.D.,† and H. L. Hiebert, M.D.‡**

Topeka, Kansas

S. L., a 65-year-old white female teacher, was brought to St. Francis Hospital by ambulance on July 13, 1951, and was admitted in severe thyroid crisis complicated by congestive failure with rapid irregular heart rate.

Chief Complaint: Shortness of breath, palpitation, extreme nervousness, panic and fright, insomnia, tremulousness, loss of weight, and painful swollen knees.

Present Illness: Six months before, patient began to notice increasing nervousness, loss of weight with continued good appetite, insomnia, progressive exertional dyspnea and, finally, nocturnal dyspnea, swollen lower extremities, and some indigestion and gas. During several weeks before admission, all these symptoms had increased, necessitating increasing amounts of bed-rest. Seven to 10 days before admission, complete bed-rest became necessary and the patient developed increasing periods of panic and apnea.

Past History: This patient had been hospitalized on numerous occasions, beginning in February, 1923, with right thyroid lobectomy (gland size of lemon) and resection of lower pole of left lobe (one-half size of a man's fist). The pathological diagnosis was adenomatous colloid goiter showing small foci of hyperplasia and degeneration; chronic thyroiditis. The second admission was in July, 1938, for heat exhaustion, thyrotoxicosis. At that time her blood pressure was 140/90, with regular rhythm on admission and auricular flutter a week later.

She was hospitalized in February, 1939, with a diagnosis of toxic adenoma of thyroid, left; subacute pharyngitis; auricular fibrillation. She was treated with Lugol's solution and digitalis.

In July, 1939, she underwent a complete left thyroid lobectomy. The weight of the gland was 42 grams. Microscopic study revealed hyperplasia. Her blood pressure was 156/84, regular rhythm and later auricular fibrillation. There was no cardiac enlargement.

The patient was hospitalized again in April, 1947, for hyperthyroidism, arthritis of fingers, and swelling of ankles during the day. Her blood pressure was 170/90, regular rhythm.

In July, 1947, she was admitted for arthritis of hands, fingers, knees and spine. Examination showed palpitation and auricular fibrillation. Again in September, 1947, she was hospitalized for the same condition.

On the last previous admission, in July, 1950, the diagnosis was hyperthyroidism, arthritis, and auricular fibrillation. Her blood pressure was 170/90. Findings were as follows: apical systolic murmur, two plus, enlarged heart; basal metabolism rate, plus 15. She was placed on propylthiouracil, 50 milligrams three times a day, but she voluntarily discontinued the drug after one month.

Physical Examination: Examination at time of admission, with the patient propped up in bed, revealed her gasping for breath. Her eyes were bright, wide, and held a wild stare. The neck veins were pulsating prominently in irregular rhythm. An old healed thyroidectomy scar was in evidence, but no thyroid tissue could be definitely palpated. She had frequent episodes of apnea when she seemed to stop breathing, almost stop living. During those episodes the pulse seemed to stop part of the time, and then beat irregularly and rapidly, the rate in the vicinity of 160 to 180. The chest was symmetrical; both sides moved equally with irregular, gasping respirations. Moist rales were present in both bases, more marked on the right. The movements of the upper extremities were characterized as flighty and weak, and there was a tremor. The pupils reacted to light and accommodation. Cranial nerves were grossly normal. There were no cervical or axillary nodes. Breasts were small and atrophic and contained no palpable masses. Blood pressure was variable, ranging from 160/90 to 180/105. Heart tones were of rather poor quality. The rate was so rapid that it was difficult to make out any murmurs. The abdomen was moderately distended; the liver was down two fingers, and was tender. The lower extremities were characterized by large knee joints which were tender to palpation; knee joint noise could be heard, and movement could be felt. There was 1-2 plus pitting

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*Presented at meeting of Golden Belt Medical Society, Topeka, Kansas, January 10, 1952. From the Medical Service of St. Francis Hospital and the Isotope Service of Stormont-Vail Hospitals.

**Internist.
†Physicist.
‡Radiologist.

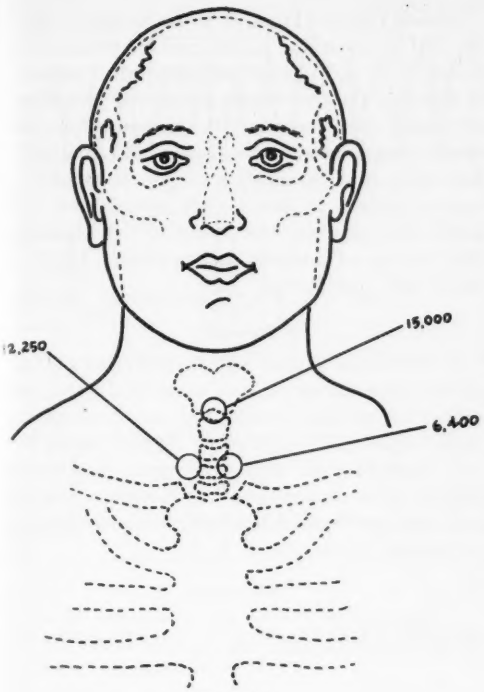

Figure 1-A

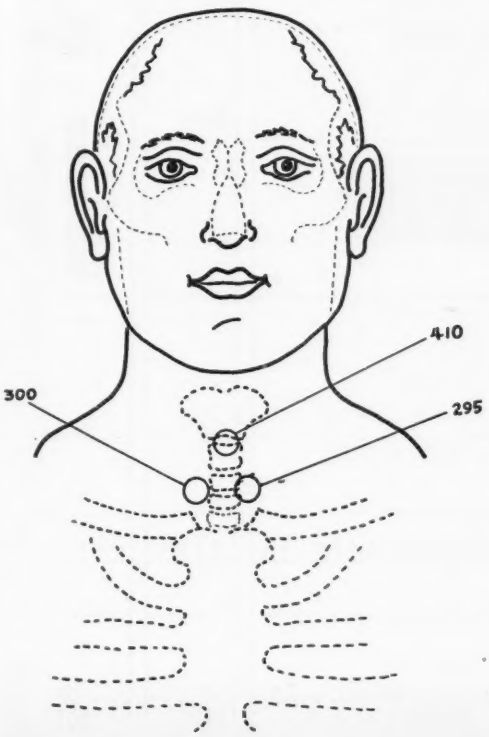

Figure 1-B

edema of the lower extremities.

Clinical Evaluation: A desperately ill 65-year-old woman in congestive failure with auricular fibrillation and frequent runs of ventricular tachycardia, in a poor state of nutrition, with no thyroid tissue definitely palpable, was thought to be in severe thyroid crisis. Confirmation of the diagnosis of hyperthyroidism with localization and permanent eradication of the hyperactive thyroid tissue with a minimum of risk and toxicity seemed desirable. Radioactive iodine was chosen as the ideal agent for both diagnostic and therapeutic purposes.

Radioactive Studies: A tracer dose of 50 microcuries of I^{131} was administered orally in orange juice on July 14, 1951. Serial surface counts were made with a Geiger Meuller counter for 21 hours. Highest counts (15,000 counts per minute, or approximately three times the normal) were obtained over the pyramidal lobe area—more than twice the normal counts over the right lobe and slightly elevated counts over the left lobe (See Figure 1-A). The tracer study indicated marked hyperactivity of recurrent thyroid tissue in the pyramidal lobe and in the right lobe of the thyroid.

An excretion curve was plotted over a 19-hour period with a total excretion of 18.7 per cent of the dose (See Figure 2). The shape of the curve is atypical of uncomplicated hyperthyroidism. The

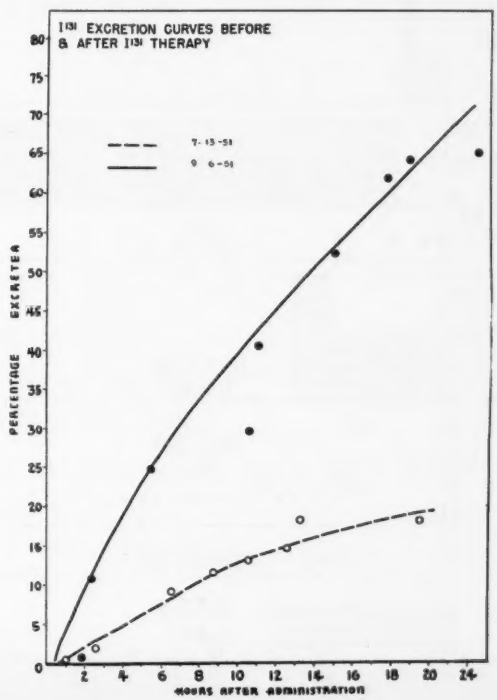

Figure 2

slope of the curve reflects lingering radioactive iodine in the stomach (prolonged high counts over the epigastrium) and elevated counts over the liver and thigh, incident to congestive heart failure.[1]

A therapy dose of 10 millicuries of I^{131} was administered on July 15, 1951. Propylthiouracil was immediately started to help retain and thus enhance radioactivity, as well as for its own anti-thyroid activity in a very toxic patient. Thyroiditis did not develop and there was no temporary increase of hyperthyroidism.

Approximately two months later, on September 6, 1951, the tracer study was repeated, using the same dose of 50 microcuries of I^{131}. Highest surface counts over comparable areas of the thyroid area reduced to 410 counts per minute from 15,000, indicating little remaining thyroid function (See Figure 1-B).

An excretion curve which is typical in shape of hypothyroidism was plotted over a 24-hour period with a total excretion of 64.9 per cent of the dose. The tracer study indicates hypothyroidism (See Figure 2). Continued excretion of the iodine was indicated at the termination of the study.

Clinical Course: Figure 3 shows in graphic form the clinical course and summarizes the pertinent information as to diagnostic and therapeutic measures. In Figure 4, the five electrocardiograms give an exceptionally good concept of her clinical course. The clinical diagnosis was easily and rapidly confirmed. The critically ill extremely toxic patient rapidly became non-toxic, in fact slightly hypothyroid (-11 B.M.R. 460 mgm. per cent cholesterol) three months after therapy. Desiccated thyroid extract, U.S.P. 30 mgm. daily, was started.

Summary

A 65-year-old woman with thyroid crisis and congestive heart failure, in poor nutritional status, presented herself after having had two previous thyroidectomies and no palpable thyroid tissue. I^{131} as a diagnostic and therapeutic agent, was selected because of its apparent absolute minimum as to risk and toxicity. The excellent clinical results have been maintained 10 months.

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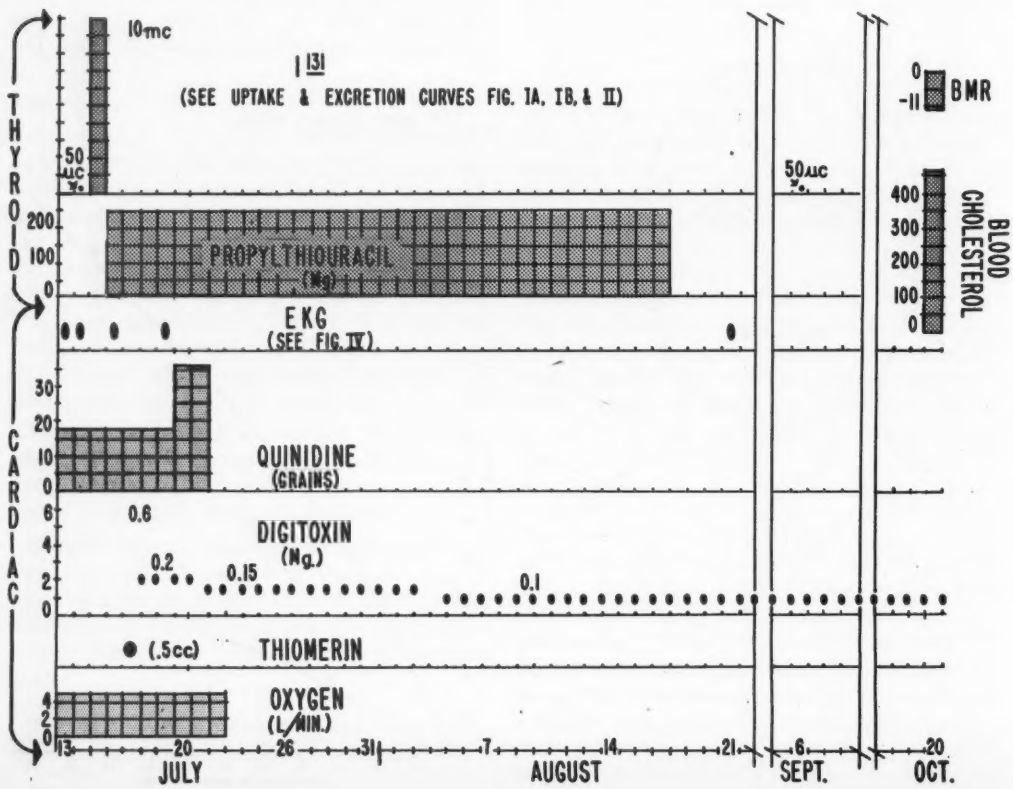

Figure 3

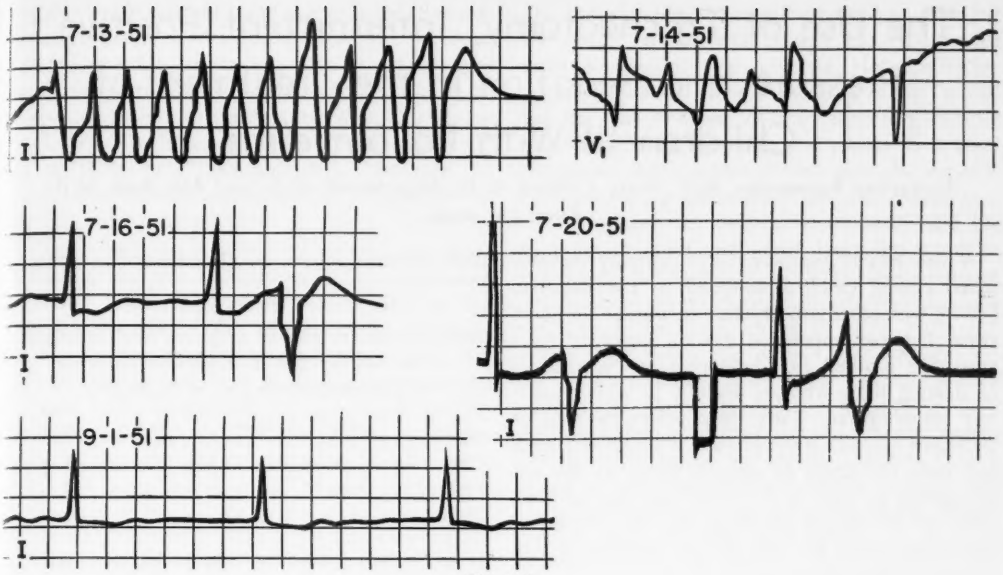

Figure 4

7-13-51—One of several runs of ventricular tachycardia (240/min.) from tracing taken on admission. Most of tracing showed auricular fibrillation with a ventricular rate 100+/min.

7-14-51—ECG taken second hospital day shows a decrease in frequency, rate, and duration of paroxysmal tachycardia.

7-16-51—On the fourth hospital day there were occasional ventricular premature contractions from one focus.

7-20-51—On the eighth hospital day there were frequent ventricular premature contractions from multiple foci.

9-1-51—Seven weeks after admission, auricular fibrillation with ventricular rate less than 60/min. No ectopic beats.

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The Use of Tracheotomy, Intermittent Positive Pressure and Sedation in the Treatment of Children Ill With Poliomyelitis*

Jacqueline Baumeister, M.D., Mary J. Blood, M.D., Alice Marsh, M.D., and Alex Roth, M.D.
Kansas City, Kansas

A considerable improvement in mortality has been noted among children admitted to the Pediatric Service with acute poliomyelitis during the last three years. It is our impression that the improved mortality has resulted from adopting newer methods of treating those who are severely ill with respiratory complications. Since these newer methods of treatment are still in the process of being evaluated, and since our series of cases is small, we are not attempting to make a definitive appraisal of their value but are simply presenting our results and our views concerning the role of these technics in producing the results obtained.

The changes in treatment consisted in (1) wider use of tracheotomy, (2) employment of intermittent positive pressure through the tracheotomy tube, and (3) administration of heavy sedation in certain selected cases.

The total number of cases admitted each year and their classification into the four conventional groups, non-paralytic, spinal, bulbar and bulbo-spinal, are shown in Table I. Little is to be gained from these data, since they do not indicate the number of severely ill children. Many children in this series had minor bulbar or spinal involvement and made the usual uneventful recovery. In this paper we are concerned only with those who were a great source of worry to the staff and those for whose survival there was serious concern.

Table I

Incidence of types of involvement in children with acute poliomyelitis by year of admission.

Year	Non-paralytic	Spinal-paralytic	Bulbar	Bulbo-spinal	Total
1949	13	47	4	16	80
1950	30	47	8	8	93
1951	43	42	11	15	111
Total	86	136	23	39	284

The criteria used in this report for determining a severely ill child with respiratory embarrassment were that the child either was placed in a respirator, had a tracheotomy or needed oxygen for an extended period of time. One or more of the present authors were personally involved in the care of all the children classified as severely ill and listed in Table II.

Table II

Incidence of severely ill children, total deaths and case fatality rate in children with acute poliomyelitis by year of admission.

Year	Total cases	Severely ill	Total deaths	Case fatality rate
1949	80	12	7	8.7%
1950	93	5	4	4.3%
1951	111	15	2	1.8%

It can be seen from the data in Table II that beginning with 1949 fewer children died in each successive year even though the total number of cases increased each year. There was considerable fluctuation in the number of children diagnosed as severely ill, but in 1951, when only two deaths occurred among 111 cases admitted, there was both the largest number of total cases and of severely ill children. This was also the year in which the newer technics of treatment had their widest application.

Tracheotomy: Tracheotomy for children with bulbar poliomyelitis was suggested as early as 1932,[1] but was not used generally until the latter part of the past decade.[3] The incidence with which this operation has been employed in the present series is shown in Table III. About 50 per cent of all the severely ill children were tracheotomized. A few more were done in 1951 than in the other two years.

Table III

Incidence of children with bulbar signs (including bulbar and bulbo-spinal involvement) of poliomyelitis, severely ill children and tracheotomized children by year of admission.

Year	Total bulbar cases	Severely ill children	Tracheotomized children
1949	20	12	5
1950	16	5	2
1951	26	15	8
Total	62	32	15

No rigid indications for doing a tracheotomy have been adopted. In general, the following were considered as indications: either repeated pooling of secretions in the pharynx in the presence of a weak or absent gag reflex, or a marked depression of the

*From the Department of Pediatrics, University of Kansas Medical School.

gag and cough reflexes associated with feeble respirations and high fever. Tracheotomy was not done unless it was felt bulbar symptoms were severe and might be prolonged for several days. In the three years covered by this survey, there were 62 children with bulbar or bulbo-spinal involvement and only 15 of these were tracheotomized. The value of tracheotomy in a debatable situation is illustrated by the following case history:

Case 1, M.T., Hospital No. 51-30701, an 11-year-old white girl, was admitted to KUMC September 25, 1951, with symptoms of bulbar polio for the previous 24 hours. On admission she appeared acutely ill. The gag reflex was absent; she was unable to swallow and there was some mucopurulent material in the oropharynx but not enough to produce difficulty. During the first 24 hours following admission she had no obvious respiratory difficulty, and careful suctioning of the posterior pharynx kept her airway clear. She continued to be toxic and had a temperature of 104.6. The lungs were clear and there was no visible cyanosis. A tracheotomy was done at this time because the gag and swallow reflexes were absent, her temperature was high and further progression of the disease was feared. The trachea was found to be almost completely obstructed with thick purulent material. Her postoperative course was uneventful and she regained the ability to swallow in three days. It was felt that the tracheotomy, which had been a debatable procedure before it was done, may have been a life-saving measure because it served to clear the trachea of its unsuspected obstruction.

Intermittent positive pressure: This procedure was introduced on the Pediatric Service in 1951. The positive pressure was given during the respiratory phase only, expiration being entirely passive.[2] The pressure was carefully kept under a maximum of 15 mm. Hg. If 100 per cent oxygen was administered by this method through the tracheotomy tube, it was usually allowed to continue for no more than 15 to 20 minutes out of every hour. If room air or 50 per cent oxygen was used, the intermittent positive pressure was used continuously. Four children were treated with intermittent positive pressure* in 1951. All four had signs of anoxia which was not relieved by tracheotomy or a respirator. The case histories of the four patients (Cases 2, 3, 4 and 6) are presented below.

Case 2, J.E., Hospital No. 51-32619, a seven-year-old white girl, was admitted to KUMC October 31, 1951, with symptoms of bulbar polio for the previous 24 hours. On admission she had a nasal voice and greatly diminished gag reflex. She was placed in an oxygen tent and appeared quite comfortable. The next day she was unable to swallow. The gag and cough reflexes were absent and considerable mucus was pooled in her pharynx. Hence, a tracheotomy was done. On the morning of the second hospital day weakness of the respiratory muscles was noticed and the child was placed in a chest respirator. She coordinated well with the machine until late in the afternoon when she became very restless, moved her extremities aimlessly and her pulse became weak and rapid. Her color was poor and she did not respond well. Intermittent positive pressure was started through the tracheotomy tube with immediate improvement of color, pulse and restlessness. When the positive pressure was removed for as short a time as 60 seconds, she reverted to her former condition. Twelve hours later she was placed in a tank respirator with marked clearing of her sensorium, and she appeared to have passed a crisis. Intermittent positive pressure was then continued for seven more days, during which time she showed steady improvement. At no time were any detrimental effects of the positive pressure noted.

Case 3, E.M., Hospital No. 51-31856, a 12-year-old white male, was admitted to KUMC with symptoms of poliomyelitis for the previous six days. On admission he was found to be almost quadriplegic, and he had had urinary retention with overflow for the previous two days. His intercostal muscles were paralyzed, but he had good diaphragmatic function. Gag reflex was diminished, but cough and swallowing reflexes were present. He was given nasal oxygen and placed in an open Drinker respirator to acquaint him with the machine. His urinary output was regulated by administration of furmethide, 2.5 mg. every eight hours. On the second hospital day, gag and cough reflexes were absent and the patient was having hallucinations. A tracheotomy was performed under avertin anesthesia, 40 mg. per kg. The patient was given oxygen by intermittent positive pressure through the tracheotomy tube. One hour later the patient was rational. He had no difficulty adjusting to the intermittent positive pressure apparatus and his subsequent course was one of gradual improvement. He was slowly "weaned" from the respirator over a period of four weeks.

Case 4, T.S., Hospital No. 51-29606, a 10-year-old white boy, was admitted to KUMC August 27, 1951, with symptoms of bulbar polio for three days prior to admission. He was poorly nourished and was acutely ill. He talked with a nasal twang, had a greatly diminished gag reflex and was unable to swallow. His temperature was 101.8. Because of his inability to swallow his secretions, a tracheotomy was performed soon after admission. Later in the day he began having respiratory difficulty and was placed in a tank respirator. The next morning in-

*The apparatus used was made by Dr. Ernst T. Moerch, assistant professor of anesthesiology.

termittent positive pressure was administered. Shortly after positive pressure was begun, he became more alert and less restless. Intermittent positive pressure oxygen was continued for three days without complication. On the sixth hospital day, atelectasis of the left lower lobe was found, but the lung reexpanded following removal of secretions from the trachea by bronchoscopy. Considerable difficulty was experienced in "weaning" the patient from the tank respirator, but his dependence on the machine was gradually overcome. At the time of discharge on September 25, 1951, the only residual symptom was a slight nasal quality to his speech. He has been seen in the Out-patient Clinic several times since discharge and no residual signs of bulbar paralysis were found.

Sedation: Heavy sedation was employed by us for the first time in 1951. Three patients were given moderately large amounts of avertin by rectum for widely varying reasons, and all were treated successfully. It was used in Case 3, mentioned above, to facilitate the tracheotomy. A brief account of the acute illness of the two remaining patients is given below.

Case 5, W.C., Hospital No. 51-29973, a seven-year-old white boy, was admitted to KUMC September 30, 1951, with symptoms of poliomyelitis which had been present for 24 hours. On the second hospital day progressive respiratory weakness was noted. He was placed in an oxygen tent, but was so apprehensive that he had to be taken out again. His fears seemed to be related to two operations which he had had at the age of three and four years respectively for incision and drainage of a thyroglossal duct cyst. He was terrified by his present illness and by the hospital, and repeatedly expressed his belief that he would be dead shortly. Attempts to place him in a Drinker respirator were unsuccessful, because of his apprehension and consequent failure to coordinate with the machine. When he started to pool secretions in his pharynx, a tracheotomy seemed unavoidable. In view of his psychological difficulties it seemed probable that tracheotomy without sedation might prove fatal. It was decided to give him avertin with amylene hydrate rectally. Within five minutes of receiving 60 mg. per kg. there was a profound improvement in his condition. His pulse became stronger and fell from 140 to 108. The copious outpouring of secretions ceased and there was no more pooling. His respirations synchronized with the tank respirator and his color improved. Even after the effects of the drug had worn off, he continued to do well in the respirator and no further sedation was required. Having successfully adapted to the respirator, considerable difficulty was encountered for psychological reasons in "weaning" him away from the respirator.

Case 6, R.B., Hospital No. 51-30559, a four-year-old white boy, was admitted to KUMC on October 10, 1951, with symptoms of poliomyelitis for the previous five days. On admission he appeared acutely ill and lethargic. Breathing was jerky, fairly regular, but with occasional double inspirations. There was slight flaring of the alae nasi. Color was good and gag reflex was present. The patient was placed in a tank respirator and nasal oxygen was administered. Over the next two days his sensorium cleared, but his intercostals and diaphragm became completely paralyzed and the gag reflex disappeared. On the fourth hospital day, the patient suddenly had convulsive movements of the lips and both hands and became stuporous. Positive pressure by mask was administered without improvement. Avertin, 40 mg. per kg., given rectally partially controlled the convulsions, but it became impossible to open the patient's mouth and soon afterward his color became poor, his pulse rate rose to 168 and became irregular. His blood pressure was 145 systolic. Tracheotomy was carried out immediately and the child was transferred to a tank respirator with intermittent positive pressure attachment. Bronchoscopy revealed profuse mucoid material in the trachea. The patient's color improved, but there was no appreciable drop in pulse or blood pressure. One hour later convulsions recurred and rectal avertin, 60 mg. per kg., was again needed to bring them under control. His course from then on was one of gradual improvement. He began to respond three hours later, and his pulse dropped to 120 over the next five hours. He received intermittent positive pressure for two weeks, after which a gradual "weaning" from the respirator was carried out without much difficulty. The only complication noted after tracheotomy was the tendency to obstruction of the bronchial tree by dried mucus secretions in spite of all efforts to keep the airway moist. The patient was discharged December 15, 1951, and is receiving physical therapy for residual weakness of almost all muscle groups.

Discussion

The many variables that obtain among children with respiratory failure during the acute phase of poliomyelitis preclude making any positive claims for any particular therapeutic procedure. Even a falling mortality rate, such as was demonstrated in the present report, may be dependent on a lower incidence of severely ill children rather than on any improvement in the methods of treatment. In this report we are drawing conclusions which were based on clinical evaluations, recognizing that the limitations of the observations which are based on the small number of patients studied are always open to criticism. However, we feel justified in re-

porting our results using these newer methods, because the mortality rate has been lower in succeeding years in spite of the fact that there seemed to be no decrease in the incidence of severely ill children and because in individual cases lives seemed to have been saved by the timely use of tracheotomy, intermittent positive pressure, heavy sedation, or all three used together. It can be definitely stated that no harmful effects were observed as the result of the employment of any one of these methods or combinations of them.

There are certain conditions and precautions that need to be observed to obtain the best results. The most important of these are a highly trained nursing service and close cooperation among pediatrician, otolaryngologist and anesthetist. Nurses must be available around the clock for patients who have been tracheotomized or are receiving intermittent positive pressure or heavy sedation, and the nurses must be familiar with the care of the tracheotomized child as well as the workings of the different types of machinery employed. It is the physician's responsibility to see that the nurses are competently trained in these special tasks. The ready availability of physicians on a moment's notice is also imperative, as severe changes take place with great rapidity, calling for repeated emergency action.

Tracheotomy may have to be done on an emergency basis. It was carried out successfully in Case 6 as an emergency procedure by one of the resident pediatricians. The best results should be obtained when time is not a factor and all the necessary precautions can be taken, such as having a bronchoscope in place with oxygen being administered through it before the tracheotomy is done.

It is difficult to establish any hard and fast criteria for doing a tracheotomy on patients with acute poliomyelitis. There was considerable disagreement concerning the necessity of doing a tracheotomy on Case 1, because there were no signs of obstruction or distress. The patient had an absent gag reflex, could not swallow, was feeble and had a high fever. The tracheotomy was done because it was felt that her margin of safety was small. Everyone was surprised when her trachea was found to be almost full of purulent material.

Undoubtedly some unnecessary tracheotomies will be done, but it will be difficult to avoid these if patients like the above are to be treated successfully. The only dangers from doing a tracheotomy are or should be those attendant upon the postoperative care, particularly keeping the trachea patent. Oxygen or room air with a high water vapor content is essential for the tracheotomized child. In addition, a few drops of normal saline should be introduced into the trachea at 15-minute intervals and suction carried out with the appropriate technic every half hour. Occasionally bronchoscopy will have to be resorted to in order to clear the lower trachea and bronchi of their accumulated secretions and to overcome the atelectasis that is sometimes encountered in the tracheotomized child.

Intermittent positive pressure is the method of choice in combating pulmonary edema, a common complication in the child severely ill with poliomyelitis. Positive pressure that is constant tends to exhaust the patient rather rapidly, as the patient is forced to make an active expiratory effort. Intermittent positive pressure has the advantage of making expiration a passive affair.

It is impractical to attempt positive pressure using a face mask unless the child is unconscious, as children will not cooperate and actually will fight the face mask, making themselves worse. If a tracheotomy has been done, the positive pressure apparatus can be attached to the tracheotomy tube and used indefinitely regardless of whether or not the child is cooperative or conscious. Frequently children demanded the positive pressure and seemed to become as psychologically dependent on it as they did on the respirators. The gas given through the positive pressure machine should be saturated with water before it is introduced into the tracheotomy tube. One hundred per cent oxygen should be used for only brief intervals of about 15 minutes to avoid the possibility of injury to the lung. In children reported here the use of intermittent positive pressure appeared to have dramatic and beneficial results.

Sedation has a definite role in the treatment of the child who is severely ill with poliomyelitis, but its use should obviously be restricted. It should not be used unless all of the equipment and personnel for combating respiratory depression are at hand. These include oxygen, respirators, intermittent positive pressure, anesthetist, otolaryngologist and nursing personnel.

Respiratory depression was not encountered in any of the three patients on whom rectal avertin in moderate dosage was used. In fact in the instance of W.C. (Case 5), the administration of rectal avertin brought about a marked and immediate improvement in condition, which was rapidly deteriorating because of his great apprehension. He said he knew he was going to die and be buried immediately. Fear was written all over his face. He was pooling secretions in his pharynx in large amounts and was fighting any effort to give him oxygen or put him in a respirator. The avertin was given in order to carry out a tracheotomy, which it was felt he could not tolerate if done under local anesthetic, because of his profound anxiety. The change in this patient within a few minutes of receiving the avertin was remarkable. He adjusted completely to the tank respirator. No more pooling

of secretions in his pharynx occurred and tracheotomy was permanently forestalled. Having adjusted to the respirator, there was no need to repeat the sedation although he remained in the respirator for many weeks. The difficulties encountered in getting him out of the respirator were almost as great as those required to get him in it and were largely psychologic.

Sedation was used in R.B. (Case 6) to stop convulsions, which probably were the result of anoxia. Convulsions occasionally occur in children with respiratory difficulties and almost certainly indicate that oxygen exchange has been insufficient, although visible cyanosis may not have been noted. Immediate steps need to be taken to combat anoxia as well as convulsions, which produce more anoxia. Sedation to stop convulsions seems justified, since the usual methods of relieving anoxia are usually not immediately effective, particularly if pulmonary edema is present, and further anoxia produced by the convulsive state can only make a poor situation worse. Sedation was used in the third case in order to do a tracheotomy. The patient was hallucinating and irrational, and it was thought that the procedure could be more effectively and safely carried out if he were quieted. No difficulties were encountered with the use of sedation in any of the three children, but emphasis is placed on the fact that all the necessary equipment and personnel were available in case the need arose.

Summary

The use of tracheotomy, intermittent positive pressure and heavy sedation in selected individuals who were seriously ill with acute poliomyelitis has been evaluated in the light of the clinical results. It is definitely felt that none of these technics has done any harm to any child on whom they were used and that the lives of some of the children were saved by their timely use. The limitations and dangers of the procedures have been pointed out.

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Exsanguination From Papilloma of Jejunum

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Although neoplastic lesions do occur in the small bowel, they are encountered so infrequently that when one is faced with a sudden, severe bowel hemorrhage, such a lesion is certainly not the first to come to mind. The case here being reported is so dramatic that it bears emphasis to the necessity of at least considering the possibility of a small bowel lesion.

On April 30, 1947, G. E., a 38-year-old, robust, white farmer, while sitting quietly in a chair suddenly felt faint and weak. He broke out in a sweat, had a desire to defecate, and then collapsed on the floor. Simultaneously he expelled a large, bloody stool. He was taken immediately to the hospital but was not seen by us until about 10 hours after the original episode. We were called in following a second severe hemorrhage. With the second hemorrhage he became nauseated and vomited.

Inquiry into the history revealed inflammatory rheumatism in childhood with no known sequellae. He had had "piles" for the past year. About four or five months prior to this illness he noted a single bloody stool which was attributed to piles. During the week immediately preceding admission he had observed several black stools. There had been no gastro-intestinal discomfort, no indigestion, no change in bowel habit. The only symptom described was a feeling of "numbness" in the epigastrium noted the evening before admission. He had slept well and "just came to town to loaf a while."

Examination revealed a well developed, well nourished, white male about 40 years of age. Blood pressure on admission at 11:00 a.m. was not recorded. Nursing notes at that time indicated that he was "pale, cold, and covered with perspiration." When seen at 9:00 p.m., following the second hemorrhage, he appeared acutely ill. His pulse was thready but slow. His skin was pale and clammy. Blood pressure was 68/0. He evidenced great anxiety. Morphine sulphate gr. ¼ was given slowly I.V. After the blood was taken for typing, 500 cc. of plasma was started. Fifteen minutes later the blood pressure had risen to 92/20. The plasma was followed by citrated whole blood. At the end of two hours the blood pressure was 104/40. His skin had become dry and warm. The pallor had disappeared. He remained comfortable all night.

On the day of admission, before the second hemorrhage, his blood count showed RBC 2,960,000 with Hb. 5.5 gm. The following day, in spite of 2500 cc. of whole blood, the red count was only 2,700,000 with Hb. 6.7 gm.

During the following 20 days, he had 16 additional episodes of bleeding. His condition remained so precarious that the accomplishment of necessary examination procedures was hazardous. For instance, on the seventh hospital day he was slated for gastro-intestinal x-ray study. Because he was inadvertently served breakfast, that procedure was postponed. Later that same day he had a severe hemorrhage so pronounced that he almost developed circulatory collapse.

However, during these three weeks it was possible to do a satisfactory proctosigmoidoscopy (to the 25 cm. level), a complete x-ray study of the intestinal tract, and an x-ray of the chest. None of these procedures yielded information of specific value, so we were left with no alternative but an exploratory laparotomy.

On the 23rd hospital day, under spinal anesthesia, an exploratory laparotomy was performed. Blood could be seen in the lumen of the small bowel. About 30 cm. from the ligament of Treitz a nodule was palpated on the mesenteric border in the lumen of the jejunum. Incision into the bowel at this point revealed a sessile papilloma about 1.5 cm. in diameter. Small fresh blood clots clung to the surface, but no active bleeding was taking place. About 15 cm. of bowel was resected and continuity reestablished by end to end anastomosis. During and after surgery he received 1000 cc. of glucose and saline and 500 cc. of whole blood. Convalescence was wholly uneventful. He left the hospital on the eighth postoperative day and has remained in good health throughout the ensuing five years.

Pathological examination of the specimen revealed a benign papilloma.

Summary: A case is presented with massive hemorrhage from a benign papilloma of the jejunum which in 21 days exhibited at least 18 episodes of bleeding, three of which produced near circulatory collapse. During the course of treatment, one pint of plasma and 21 pints of whole blood were required. Recovery was complete.

PRESIDENT'S PAGE

Dear Doctor:

The 1952 meeting of the Kansas Medical Society has now taken its place in history. Altogether the meeting was a very enjoyable one with a very fine attendance and even finer spirit which was apparent on the part of those in attendance. The locale permitted its being staged in beautiful and completely adequate surroundings as far as the new Town House Hotel is concerned. The management, particularly Mr. Lew, went all out to make the event a most enjoyable one. Many old acquaintances were met again and old friendships renewed. Many new and highly pleasing acquaintances were made by the particularly fine group of younger men who are coming into the Society. Again the exhibitors, to whom we owe so much, were very loyal in their support although working in rather inadequate quarters. Our many thanks to them. We were most royally entertained by the Wyandotte County Society, who went all out to make the meeting and our stay an enjoyable one. Particularly we wish to thank Lee Leger and his committees for their untiring efforts.

We were particularly impressed by the interest, spirit and enthusiasm shown by the ladies of the Auxiliary. We were fortunate in being able to attend some of their functions. Their interest, sincerity and devotion to their purposes was impressive. We were particularly fortunate in having the national president, Mrs. Wahlquist, at the luncheon. Her vibrant personality was greatly enjoyed.

The Medical Assistants also had a very fine meeting with a particularly good attendance and marked interest. This organization is rapidly becoming an excellent group of people who are greatly interested in their work and devoted also to their purposes. They are rapidly becoming an important group in the medical scene. Their potentialities in the field of public relations can hardly be overestimated.

In our opinion these two groups should be given our complete cooperation and encouragement.

The year ahead will no doubt be a very eventful one. It could well be a very critical one as far as Kansas medicine is concerned. The summer time, which is already upon us, commonly is a time for vacations and relaxation. That is as it should be. However, let us realize and appreciate that we have a big job to do this year and let us resolve to devote ourselves to this task and take up next fall in a determined manner in order that the health of the people of Kansas and the work of the Kansas Medical Society may go along in the traditional pattern of the "Kansas Way" so admirably fashioned by the past.

Committee assignments will soon be forthcoming and we hope they have been well made. With the cooperation of the entire personnel of the Society plus the willing and sincere help of the Auxiliary and the Medical Assistants, plus some tireless work on the part of the officers, we cannot fail.

EDITORIAL COMMENT

New Dean at Medical School

An announcement of importance to the medical profession in Kansas was made on May 23, 1952, when the Board of Regents, meeting in Topeka, reported the selection of Dr. W. Clarke Wescoe, 32, as dean of the University of Kansas School of Medicine and director of the University of Kansas Medical Center. The appointment became effective on June 1.

Dr. Wescoe will fill the position left vacant on September 1, 1951, when Dr. Franklin D. Murphy became chancellor of the university. Since that time Dr. Edward H. Hashinger, of the department of medicine, has been serving as acting dean. Dr. Hashinger will remain on the staff and will continue work on the development of a basic program for treatment of diseases of the aged.

W. CLARKE WESCOE, M.D.

During the past year Dr. Wescoe, who is considered one of the outstanding young doctors in the field of research and pharmacology, has been professor of pharmacology and experimental medicine at the university. Research on the use of curare as an anesthetic, which he has been pursuing since 1945, is high on his list of interests.

The new dean received his medical degree from Cornell University in 1944, served his internship at New York Hospital, and was assistant resident there in 1945 and 1946. The following two years were spent at the Army chemical center in Maryland, and at the same time he was a research fellow in pharmacology at Cornell. He then became an instructor in pharmacology at Cornell and was made assistant professor in 1950, resigning there last year to come to Kansas.

In 1949 Dr. Wescoe was granted a Markle scholarship for research in medical science. Also listed among his honors is the fact that he has served as assistant editor of the Journal of Pharmacology and Experimental Therapeutics since 1948. He is a diplomate of the National Board of Medical Examiners and is a member of numerous honorary societies.

Mrs. Wescoe, the former Barbara Lucile Benton of Kansas City, is the daughter of Judge M. Benton of the Wyandotte County District Court.

The personal qualifications of the new dean, being intangible, are less easily expressed than his medical background and accomplishments, but they are no less favorable. He is a personable young man who comes to the new position with enthusiasm and a desire to achieve. Under his guidance the University of Kansas School of Medicine will undoubtedly continue to progress and to occupy a position of eminence among medical educational institutions.

The Journal joins the Kansas Medical Society in wishing Dr. Wescoe unmeasured success in his new undertaking and looks forward to a continuation of the pleasant relationship that has existed in the past.

The Doctor in Politics

Why should any doctor enter politics? How can he spare the time? At first glance you brush off the subject as fantastic. Medicine is an exacting wife who forbids even a fleeting glance toward the tolerant political siren. Lacking constancy this marriage is nothing.

But there is another view. Democracy was not a divine gift miraculously dropped into the center of the North American continent. It was fought for and bled for and died for by practical idealists. It was molded and nurtured and protected by honorable men to whom freedom was of even greater value than life itself or anything life offered. Among these were doctors—doctors whose honorable marriage to the science of medicine was unquestioned. They left not in pursuit of adventure but in the deadly earnest endeavor to preserve the integrity of their heritage.

They were doctors who cared for the sick, but before that they were citizens who accepted a larger personal responsibility toward the people they served—that of giving them through the offices of government, the advantage of their knowledge, their integrity, their idealism and their example.

And why not? What is improper about the concept that government is the place for our most enlightened citizens and our most honorable? Is there any valid support of the pitiful popular notion that any person is so preoccupied that he cannot serve his state or nation in public office? Where is the sense of the theory that government offices become the heritage of the misfits and the unsuccessful in private enterprise? Indifference toward our most terrible responsibility is the cause of this situation and unless successful doctors, together with outstanding citizens in all other walks of life, rise to demand integrity in government, unless they step forward to bring integrity into government, we may never find it again.

This is not critical any more than you criticize the sun for shining during the day when there is enough light already rather than at night when it is needed. It is rather a tribute to those physicians for the personal sacrifices they have made to give us the state and the nation we have today. With more light it would be brighter longer, but of course that merely requires more light.

A brief survey will reveal that many physicians are serving their government today. The value of their efforts cannot be appraised in words, and their gift to all people raises the stature of their work infinitely beyond the confines of partisan or special interests.

History reveals that medicine has contributed to the progress of this nation in a very large political way, and in Kansas this is especially true. Do you know, for example, that the first governor of the state of Kansas and at the same time the first lieutenant governor also were both doctors of medicine?

Charles Robinson, M.D., of Lawrence on February 10, 1859, served as one of the incorporators of the Kansas Medical Society who successfully requested the territorial legislature for a charter. They pleaded so well that the venerable statesmen of that day not only created the Kansas Medical Society but gave to this corporation "perpetual succession forever." When Kansas became a state two years later, Dr. Robinson was elected governor, its first and until now the only physician ever to have served in this position. His term ran from February 9, 1861, until January 1863.

During this same period the lieutenant governor was Joseph Pomeroy Root, M.D., of Wyandotte. He also was one of the incorporators of the Kansas Medical Society and served as its second president. His six years is the longest president's term in the history of this Society, from 1860 to 1866, which dates include and surround the term of his political office.

Two other Kansas physicians have been lieutenant governor of the state, Dr. Charles S. Huffman of Columbus, 1919-1923, and Dr. Jacob W. Graybill of Newton, 1929-1933. It will be recalled by many that Dr. Huffman was also president of the Kansas Medical Society during the first World War, 1917-1918.

Doctors are still working in our state government, but the expanded services of more are needed. Nor is this to be interpreted as a plea for the protection of whatever might be called specialized interests. If you include under specialized interests the protection of the health of all people, their public health services and their private medical care, the reduction of maternal mortality, expanding their life expectancy, preventing disease, improving nutrition, building hospitals, then yes, these doctors are protecting specialized interests.

But they are doing more. They are giving their full measure of support toward keeping us apart from oppression, safe from invasion, at liberty against those who threaten to strangle our freedom of speech and worship. When we weigh their achievements with ours on that inexorable scale of life, who among us will be found wanting and why?

Political Skirmish

President Truman's characteristic comment on how the A.M.A. can cause many in the Congress to "turn over and play dead" was widely published in the press. The furor was caused by another attempt on the part of the administration to impose socialized medicine upon the public. So much comment has followed this hectic and dramatic incident that the A.M.A. issued a formal statement concerning its participation in the event.

House Resolution 7800 was introduced on May 12, 1952, and referred to the Committee on Ways and Means. Printed copies of the bill were available on May 14, and on May 16, without having held any public hearings, the committee reported the bill out favorably. On May 19, just one week from its introduction, it was voted on by the House.

Nor is that all. It was brought up under unusual circumstances. Rules were suspended and debate was limited to 40 minutes. Amendments were prohibited, and the only vote available concerned its passage as it appeared. Such action requires a two-thirds majority, and the final count was 149 for and 140 against the bill. It is not yet killed and may come up again before the close of the session.

H.R. 7800 provides amendments to Title 2 of the Social Security Act. In general it increases survivors' benefits by 12½ per cent. This actually is the major intent of the bill and is something which the A.M.A. certainly did not object to and could have no logical reason for worrying about in the first place. The A.M.A. was concerned only with Section 3, which is actually a very different subject. Section 3 declares that the Federal Security Administrator shall determine what constitutes total and permanent disability and is authorized to give examinations at fees he will establish and from physicians he will select for all persons in this category. This bill did not establish the total and permanent disability benefits, but it most certainly would establish a precedent and framework for the adoption of such benefits in the future.

The A.M.A. did not object to the entire bill, but only to Section 3 which would have put the government's foot in the door of socialized medicine. The A.M.A. informed the Congress of its position in

the belief that it was performing a public service.

Certain criticisms have implied that the A.M.A. is resorting to power politics and have further erroneously stated that the medical profession is opposed to increasing survivors' benefits. Because of these misstatements, the A.M.A. wishes it widely known that its action was honorable and in the public interest. As the smoke is cleared from this latest skirmish, many persons in the Congress are wondering why such speed was necessary in the presentation of the bill, why public hearings could not be held, and why it was presented without permitting amendments to be offered. Many who voted against this bill are favorable to its principal parts and would gladly have sponsored it. They now resent the implication that they have defeated beneficial legislation. The A.M.A. also resents the criticism that has been leveled against physicians in this regard. Many heated words have been printed, and this explanation is offered to give the medical profession in Kansas the truth about this action.

And One to Grow On

A recent issue of GP, the official publication of the American Academy of General Practice, printed a guest editorial with the above title. The author cited several examples from his experience of individuals and corporations who gave their customers something more than they paid for, something extra. One is the story of the merchant who sold him candy as a youngster. This merchant carefully counted out a penny's worth and then always added a piece with the comment that this was one to grow on.

The author then suggests a variety of possible things a physician might do without thought of remuneration but on the basis of giving an added measure of service. His illustrations are of the homely variety that might be used by a family doctor to establish a higher level of good will among his patients. The editorial seemed of value because it is exactly in these homely services that the family most appreciates its doctor.

He tells, for instance, that this technique may be employed by making a brief examination for a problem that is totally unrelated to the general complaint. The patient who comes to the physician with an upper respiratory infection will feel that he has received one to grow on if, after the consultation is concluded, the doctor takes his blood pressure just for fun. It represents the something extra that impresses the patient. He implies that he often stops a few moments during a house call to have a cup of coffee with the family, and during this period the visit is purely social. It helps immeasurably to find the doctor entering the family circle. It relieves the family tension and often results in more actual benefit than the medicine that has been prescribed.

The large family wishing examinations for all youngsters may find this cost difficult to meet. Here again an opportunity is provided to give one examination for nothing as one to grow on. It represents an illustration of the theory of throwing one in for good measure. "The physician has little to render except service and he must merchandise his service to the complete satisfaction of the purchaser, and only when the purchaser has been satisfied will the bones of contention disappear."

The efficiency expert would call this good public relations. The manufacturer of a product can in a sense purchase good will by adding a bonus to the product he sells. This is a frequently utilized sales promotion idea in which, for instance, you buy one product at its full price and get the second for one cent. The purveyor of a service may employ the same plan but, not having a commodity to distribute, may do so only by offering more in the way of service than his customer or patient feels he has paid for. In these days while the practice of medicine is being criticized, a gesture of this type could provide large dividends. Its cost need not be great, and without question the results will far exceed not only the expenditure but also the expectations.

Moreover, the medical profession has a unique opportunity to carry this idea into action. What would it be worth to the utility corporation to be given the opportunity of spending 15 minutes a year alone in an office with each of its customers? That opportunity is present for every physician who practices medicine. The difference between success and failure of the idea lies only in how effectively the individual physician utilizes these 15 minutes.

U. S. medical and pharmaceutical research, which has made its greatest strides in the conquest of bacterial infections, will be chiefly directed in the coming years to "unlocking the mysteries of endocrinology, cancer and neurological and mental disturbances," in the opinion of Dr. Theodore G. Klumpp, president of Winthrop-Stearns, Inc.

"In endocrinology we have a host of glandular disturbances and imbalances, and such unsolved disease entities as diabetes," he said. "I believe that high blood pressure and arteriosclerosis, the latter the greatest killer of them all, belong in this category.

"We have no real clue as to the nature of cancer, and it is possible that several distinct and different mechanisms will prove to be the cause. It is even more likely that many serious and unsolved mental and neurological disturbances will prove to be different in their origins and causative mechanisms."

93rd Annual Session, Kansas Medical Society

Officers for 1952-1953

Dr. Warren F. Bernstorf, Winfield, who took office as president of the Kansas Medical Society on May 1, will be assisted during the coming year by the following officers: president-elect, Dr. Lucien R. Pyle, Topeka; first vice president, Dr. Murray C. Eddy, Hays; second vice president, Dr. John M. Porter, Concordia; constitutional secretary, Dr. Dale D. Vermillion, Goodland; treasurer, Dr. John L. Lattimore, Topeka; delegate to the American Medical Association, 1953-1955, Dr. L. S. Nelson, Salina; alternate, Dr. George Gsell, Wichita. Elected last year and holding over in office are Dr. John M. Porter, Concordia, delegate to the American Medical Association, and Dr. Peter E. Hiebert, Kansas City, alternate.

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Councilors for 1952-1953

The terms of office of councilors for Districts 3, 6, 10 and 12 expired this year, and those four districts selected representatives to serve on the Council for three years. A complete list of the Council membership and the date of expiration of each term follows:

1. Dr. W. L. Anderson, Atchison, 1954
2. Dr. H. P. Jones, Lawrence, 1954
3. Dr. J. G. Hughbanks, Independence, 1955
4. Dr. F. C. Taggart, Topeka, 1953
5. Dr. L. J. Beyer, Lyons, 1953
6. Dr. C. W. Miller, Wichita, 1955
7. Dr. S. A. Anderson, Clay Center, 1954
8. Dr. A. E. Rueb, Salina, 1954
9. Dr. M. J. Renner, Goodland, 1953
10. Dr. L. W. Reynolds, Hays, 1955
11. Dr. C. V. Black, Pratt, 1953
12. Dr. R. G. Klein, Dodge City, 1955

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Nominating Committee

Five past presidents of the Kansas Medical Society were elected by the House of Delegates to comprise the Nominating Committee for 1952. Named to the group were the following: Dr. Haddon Peck, St. Francis, chairman; Dr. W. M. Mills, Topeka; Dr. W. P. Callahan, Wichita; Dr. H. N. Tihen, Wichita, and Dr. N. E. Melencamp, Dodge City.

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Editorial Board

Dr. Orville R. Clark, Topeka, was named editor of the Journal of the Kansas Medical Society when Dr. Lucien R. Pyle, who held that position for six years, resigned. Since Dr. Pyle was taking office as president-elect of the Kansas Medical Society, he resigned also as a member of the Editorial Board, and Dr. David E. Gray, Topeka, was named to complete that unexpired term. Others on the Editorial Board who will serve with Dr. Clark and Dr. Gray are Dr. John W. Cavanaugh, Dr. Richard Greer and Dr. Dwight Lawson, all of Topeka.

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Official Proceedings, First Session, House of Delegates April 29, 1952

The first session of the House of Delegates of the 93rd annual session was held at the Town House, Kansas City, on April 29, 1952, with 79 voting delegates present at the start of the meeting. Dr. Clarence H. Benage, Pittsburg, presided.

Minutes of the last meeting and reports of the councilors of the Society were approved, after which chairmen of standing committees were invited to present reports supplementing those published in the April issue of the Journal.

Dr. A. W. Fegtly, Wichita, distributed copies of the newly-printed Constitution and By-Laws for the Committee on Constitution and Rules.

For the Committee on Endowment, a letter from Mrs. F. R. Croson was read, thanking the Kansas Medical Society for creating the Dr. Croson Memorial Student Loan Fund in memory of her husband, the late Dr. F. R. Croson, Clay Center.

Dr. Clyde W. Miller, Wichita, outlined the public opinion poll being conducted by the Committee on Public Health and Education, and the House directed that a request for continuation of the work be incorporated in the supplementary report.

The Committee on Medical Economics, represented by Dr. B. A. Nelson, Manhattan, reported approval of a group health and accident policy sold by the Washington National Insurance Company.

A standing tribute to the members of the Society who died during the past year followed the presentation of the report of the Committee on Necrology by Dr. J. D. Colt, Sr., Manhattan.

Dr. H. H. Jones, Sr., Winfield, reported on a meeting of the Committee on Medical Schools.

All supplementary reports were approved.

Reports of special committees were then presented as follows: Dr. J. L. Lattimore, Topeka, for the Committee on Nursing Education; Dr. Lucien R. Pyle, Topeka, for the Kansas Volunteer Advisory Committee (printed in full in this issue); Dr. Henry N. Tihen, Wichita, and Dr. Benage for the Advisory Council; Dr. Benage for the Defense Board. All reports were approved, and a resolution proposing a study of the nursing education problem was introduced.

Activities of the Editorial Board were reported by Dr. Pyle, after which Mr. Oliver E. Ebel, executive secretary, presented his resume of the year's work.

The constitutional secretary, Dr. Dale D. Vermillion, Goodland, reported on membership in the Society as follows: paid membership, 1,357; delinquent, 229; honorary, 117; on leave of absence, 61; service, 34. The total, 1,768, shows an increase of 61 over the previous year.

Dr. Lattimore read the treasurer's report. Dr. J. S. Nelson, Salina, speaking for himself and Dr. John M. Porter, Concordia, gave the report of delegates to the American Medical Association.

The address of the president was given by Dr. Benage, as printed elsewhere in this issue. Dr. Warren F. Bernstorf, Winfield, president-elect, outlined plans for the coming year.

Approval was given the reports of all officers.

Two resolutions were presented, the first by Dr. Bruce P. Meeker, Wichita, regarding the value of a basic science law for the protection of the people of Kansas. The second, introduced by Dr. Clifford J. Mullen, Kansas City, requested an examination of the University of Kansas Medical Center.

Dr. Cyril V. Black, Pratt, spoke briefly on the value of good will between physicians and representatives of pharmaceutical and surgical supply houses.

The president requested that meetings be held by delegates from the four districts scheduled to elect councilors in 1952.

There being no further business, the meeting adjourned.

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Official Proceedings, Second Session, House of Delegates May 1, 1952

Eighty-five voting delegates were present at the beginning of the second session of the House of Delegates of the 93rd annual session. Dr. Benage presided at the meeting, held at the Town House, Kansas City, on May 1, 1952.

A resolution on nursing education was approved. It recommended that a license committee be appointed by the American Medical Association to confer with similar committees appointed by national nursing organizations, the league of nursing education, and the American Hospital Association to study nursing education and nursing shortages and to find an equitable solution to present nursing problems. It recommended further that state medical societies study the problem with reference to their own locale, and that the Kansas Medical Society unite with other states in this geographical area for this project.

Among other resolutions the House rejected one providing for a study of the University of Kansas Medical Center, but approved a motion that the Committee on Medical Schools visit the school and report its findings to the Council and, if necessary, to the House of Delegates at its next meeting.

Next on the agenda was the election of officers, reported elsewhere in this issue.

It was announced that the next session will be held in Wichita, May 3-7, 1953, on the 50th anniversary of the host group, the Sedgwick County Medical Society.

A motion thanking the Wyandotte County Medical Society, hosts for the 1952 session, was unanimously approved.

The meeting closed with the installation of the new president, Dr. Bernstorf.

* * *

President's Address

At our last session I was installed as your president and my address to the House of Delegates set forth a program. This program was composed of 15 projections. Tonight, the sunset of my tenure of office, I approach you with all the humility I possess and very humbly submit a report for your evaluation.

I said one year ago that certain circumstances were dictating to us and we were obliged to be dictated to—until we could restore a normal and harmonic progression. I said there was a different type of thinking today which was specifically affecting our social structure, causing exaggeration of paternalism and diminution of pride, determination, and the stern qualities of our forebearers. Along with their paternalistic tendencies a new philosophy has been woven into the fabric of our Society, the destiny of which, as it in part affects us, seems to hinge upon our health service status. But let us not forget that all national preferences cannot be maintained in the absence of sales advice, be it autos, TV or health! I said, "Medicine and its allies" (I meant normal allies) "must adjust any differences that are present; then each one must contribute to the health of society, and if and when each group makes its respective contribution we can then assume we are united in cause and effect. To this end, I pledge this body, all effort shall be made."

These remarks were prefaced by a 15-point endeavor. The points were:

1. To assist in the establishment of a strong yet flexible civil defense program. Whenever we were asked we responded, and we have assisted in the attempt to unite with Missouri and establish medical school training centers. There have been obstacles which were beyond our control, yet I do feel that

the machinery is now available, so if needed implementation could be immediate.

2. I probed to examine the medical records of indigent care. To this end we have worked hard and long, with the cooperation of the Kansas Pharmaceutical Association and the Kansas Hospital Association. They have given wholeheartedly, unselfishly and without bias or prejudice. The Kansas Pharmaceutical Association, the Kansas Hospital Association and the Kansas Medical Society then joined with the Social Welfare Board and a representative of the Research Division of the Legislative Council to make a state-wide survey of medical costs to the indigent and to adjust inequities through the findings of the report. This survey presently is in progress. I should like to add that some 15 of the larger counties have been examined in some detail, but at present we concluded such detail wasn't necessary for our purposes and have now simplified the examination. We have reason to believe the balance of the entire state examination will be completed in 60 days. This examination will enable the interested professions and parties to have the year's health cost, from which formal and specific negotiations can be instituted.

3. I proposed to assist all official and voluntary health agencies; I feel this was done without hesitation. I am certain our efforts were felt and appreciated.

4. I proposed to support the rural health program. This program has continued from former years, and the committee has been active. We continue to slowly but surely close the rural gaps by aid of our medical school, our committee and all others concerned. We opposed, and so voted against, subsidy for those doctors who go to rural areas. This question was asked through the American Medical Association. The A.M.A. appreciates this need and is willing to assist all states. Dr. Hashinger informs me he has two men going to rural areas this summer, which narrows the gap by two.

5. We have in every way and at all times supported the Blue Cross and Blue Shield. We have assisted in securing personnel and have, through our Interprofessional Advisory Council, enlisted closer study and cooperation for our voluntary prepayment plans. We have always been eager to promote these two institutions.

6. In seeking closer relations between our central office and component societies we have tried reports, have encouraged councilors to be more active in this respect and have discussed the problems at some length, without a solution at the moment, but we feel the problem will be solved. We're conscious of the fact that a better Society could be had if we could devise a means of quick transmittal to all members all actions taken by the Society.

7. Regarding Society funds, I want to advise a composite report of income and disbursements was made and sent to each county for your information.

8. I proposed to all committees that they be ever mindful of legislation. I am proud to advise we have taken steps designed to improve this relationship.

We have developed an Advisory Committee which is already at work on legislative operations for the 1953 session, and I feel this procedure might be much better for our Society because we will have a definitive program and less need for the usual lobbying. Yes, all this is within reach *if* each and every member will accept his and her responsibility and actually discharge it! Whether or not we want to, we have to, if we want to survive these vicious days of power bargaining, enter the field of politics and be willing to play for the blue chips and to play for solid keeps!

This, as you know, requires money, men and organization! I can predict tonight that anything short of this projection means further defeat. We have this past year labored and produced the machinery to win. Now, tomorrow, and the next few months you have the privilege of determining whether you want to win or lose by just exactly how much you contribute, morally, physically and financially! Gentlemen, you will agree, I am sure, that we are embarrassed to admit that $3,000,000 was raised by osteopaths to keep six schools in the race for existence while we of the A.M.A. were raising $140,000 for 76 schools. Now, isn't that sheer shame?

9. and 10. I pledged the medical assistants I would try to avoid the frequent conflict of their meeting with Mother's Day. I pledged support to the Auxiliary. Both have been exercised.

11. I felt we should support our parent organization. I am proud to say after talking with A.M.A. officials that the Kansas Medical Society is held in high regard and there is no friction. Thus I feel our obligation is certainly justified. Compare your dues with union labor dues, and if then you begrudge such fees—well, God help you.

12. I pledged that new ideas would be given consideration. This has been accomplished, and by way of example—the Interprofessional Advisory Council, the Advisory Committee, our public relations program, our legislative program and the indigent care survey have resulted.

13. This concerns a breakdown of medical costs. When this subject is discussed by laymen the inference is that the doctor is the cause of high costs. This study was very effective and through the cooperation of the Kansas Hospital Association, the

Kansas Pharmaceutical Association and the Kansas Medical Society with Blue Cross and Blue Shield, it has been disclosed that hospitals receive approximately 50 per cent, drugs require 20 per cent, and doctors receive 30 per cent of the total cost of health care. In 1950 the national average was 34 per cent for hospitals, 35 per cent for doctors, 14 per cent for dentists and 17 per cent for drugs.

14. I pledged you effort would be made to improve relations as well as fees between our Society and the State Athletic Association. I am glad to report this also has been done, and there is an insurance program now in effect, fees based on and patterned after Workmen's Compensation, and also free choice of doctor. If you have any questions, you may direct your inquiries to our central office.

15. This point concerns support for a tuberculosis sanitarium in southeast Kansas. This support was given, and brochures were prepared by different communities. The needs were substantiated by case finding facts, and I appeared before the Legislative Council and submitted data for the council to study. The approach to the subject has been kept on a high plane, and fairness to all concerned communities has been most carefully exercised. So, during the past year, I can report to you that each and every projection has been explored. We have either accomplished, set in motion or disposed of each and every phase of the program.

The net evaluation becomes your privilege!

In passing I should like to leave with you my experience, though not original—not new but often neglected! The first thought is—those charged with guiding the destiny of our Society are daily confronted with the ever increasing complexities of life and all the interests therein provided. Thus, in the approach to and considerations of Society problems we must always be conscious of a legion of separate and heterogeneous interests which will, if unrecognized, let us overlook the human element, and the human element is always a vital part whether we're dealing with patients, dealing with the public, dealing with our allies or discharging our obligations to society.

The second thought I would like passed on is the absolute necessity for us, as doctors and citizens, to enter the field of politics if we are to preserve our freedom, our professional standards and our personal dignity.

Our inherent tendency is scientific imagination, which of course is a splendid faculty, but, let us coordinate it, regulate it and guide its production!

I want to advise you that I have observed your directive of one year ago in severing any and all relations with the osteopaths. I have observed your instructions in every way!

In conclusion, I want to say again, the honor of having served as your president during the past year was a privilege indeed singular, and as such the concluding year shall occupy a singular status in my memory. My only hope is that my actions and my behavior will warrant Time to record we at least moved forward!

Now, as I move to occupy the presently vacant chair of immediate past president, let me extend to each of you and yours wishes for a successful and healthy year that lies just ahead. Thank you.

C. H. Benage, M.D., *President*

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Editorial Board

Your Editorial Board, composed of Lucien R. Pyle as editor and John W. Cavanaugh, Orville R. Clark, Richard Greer and Dwight Lawson as members, submits to you the following report.

The Journal of the Kansas Medical Society was published the past year with a total publishing cost of $18,498.75. Of this sum $16,895.18 was obtained through the sale of advertising space on the pages of the Journal and through a small number of subscriptions from physicians or persons who are not members of our Society. It is therefore our duty as members of the Kansas Medical Society to be cognizant of the fine support of those ethical companies who advertise their products through the medium of our Journal and to patronize them whenever possible.

As of 1953, if we wish to retain our second class mailing privilege, it will become necessary for us to change some of our operating procedures. The only change that will materially affect our members is that postal regulations require that not less than half of the published subscription rate ($4.00) be directed to and receipted by the Journal of the Kansas Medical Society. This will be reflected by a notation on your receipt for your annual dues as issued by the Society next year. It will not, however, make a change in the dues or in the cost to the Kansas Medical Society because it will be paid back to the Society by check for rental of office space and payment for other services rendered to the Journal by the staff in the state office.

Honorary members, however, will be required to pay a subscription rate of $2.00 per year if they receive the Journal.

It is the desire of your Editorial Board to improve the scientific content of the Journal, issue by issue and volume by volume. There is an abundance of clinical material and an abundance of medical talent in the state of Kansas. There seems to be a dearth of medical talent when it comes to preparing this material for publication. Good medical writing requires much time and research, both through clinical records and the literature. This material must

then be carefully presented and evaluations and conclusions drawn. It must be carefully edited from the brevity of the opening paragraph to the terseness and severe correctness of the summary and conclusions. Such efforts are rewarded by presenting a good paper for publication. We are ever in search of such medical papers. You and those that you represent are our only source of such material.

It is in this report each year that the Editorial Board has the privilege of publicly expressing to the Society its appreciation for the loyal and efficient service rendered to us and to the Kansas Medical Society by our managing editor, Miss Pauline Farrell, and our business manager, Mr. Oliver Ebel.

As editor of the Journal, I wish to express my personal gratitude to each member of the Editorial Board whose time and counsel have been invaluable in our efforts to raise the standards of the Journal of the Kansas Medical Society.

Lucien R. Pyle, M.D., *Editor*

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Kansas Volunteer Advisory Committee

Although the Kansas Volunteer Advisory Committee to Selective Service is not an official committee of the Kansas Medical Society, its activities are of interest to every component society, more particularly so since all of the opinions as to availability or essentiality are passed to the local advisory committee, one for each county medical society.

I wish to emphasize that this committee has nothing to do with what physician is called to the service. The order of call is determined by law and according to categories. The youngest man in each category is called first. According to law, every available man in Priority I, taking the nation as a whole, will be called before the first man in Priority II is called. The only exception to this is the delay in call for those men who have been declared essential. Therefore, the only duty of the Volunteer Advisory Committee, acting upon the advice of the local advisory committees, is to maintain in those areas where there is need sufficient doctors to take care of that need until such time as they may be replaced by another physician.

I am sorry that I am unable to tell you how many doctors have entered the service from the state of Kansas. This is a bit of information that we have not been able to obtain either through the armed services or the headquarters of Selective Service.

However, according to information received from the national advisory committee, all of the physicians in Priority I are now in service with the exception of about 1,000 who have not voluntarily made application for a commission. It would appear that there will soon be another draft of physicians. The Army is calling up 232 physicians in July, and it is expected that a similar or larger number will be called in September due to the release of quite a large number of physicians who were involuntarily recalled to duty in 1950.

According to law, the $100 per month additional pay for physicians ends in September, 1952. There is considerable debate about this pay at the present time, and there is a possibility that the law will not be extended.

I wish to urge that all correspondence from the office of the Kansas Volunteer Advisory Committee to the local advisory committees be answered promptly. This is particularly necessary if it concerns a physician that the local advisory committee considers essential.

Remember that this committee is attempting to make its recommendations for the best interests of medical service to our communities. We are not basing and cannot base our recommendations on personal requests of physicians except in instances of extreme hardship, and then only for such period of time as that hardship continues.

Lucien R. Pyle, M.D., *Chairman*

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Blue Shield Elects

Dr. Henry S. Blake, Topeka, was elected president of Kansas Blue Shield at a meeting held in Kansas City on April 27. The following officers will serve with Dr. Blake: Dr. Lloyd Reynolds, Hays, vice president; Dr. G. G. Whitley, Douglass, executive vice president; Dr. John A. Holmes, Lawrence, secretary-treasurer.

Trustees newly elected to the board of directors are Dr. P. E. Hiebert, Kansas City; Dr. F. A. Moorhead, Neodesha; Dr. R. P. Watterson, McPherson, and Dr. M. F. Frederick, Hugoton.

One of the principal items for discussion at the meeting was the procedure for election of trustees to the Blue Shield Board of Directors. In the past, each member from a councilor district was elected by the members of the Blue Shield board from nominations presented by the secretary of each county medical society in that councilor district. It was decided that in the future each county medical society will present a name to the chairman of the district Blue Shield Relations Committee, and that committee will recommend its nomination to the members of the Blue Shield Board. It is thought the revised procedure will provide better representation of the doctors in each district and give opportunity for greater participation on the part of the district committees.

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Obstetrical Society Organized

A meeting of all physicians interested in obstetrics was held in Kansas City on April 29, after arrangements for the session had been made by Dr. David

E. Gray, Topeka, and Dr. Hubert M. Floersch, Kansas City. It was decided that a society for the dissemination of obstetrical knowledge would fill a need, so organizational plans were outlined.

Since the name of the former Kansas Obstetrical and Gynecological Society implied that membership was limited to those practicing this specialty, the group decided to call the new organization the Kansas State Obstetrical Society, with membership open to all physicians in the state who are interested in obstetrics. The first regular meeting of the society will be held in November at the time of the refresher course in obstetrics at the University of Kansas Medical Center. All physicians in the state will be invited by letter to become members.

Dr. Robert G. Heasty, Manhattan, was named president of the new organization, and Dr. Robert H. Maxwell, Wichita, was elected secretary.

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Radiological Society Meets

A business meeting of the Kansas Radiological Society was held in Kansas City on Tuesday, April 29. Officers chosen at a meeting held in February were in charge. Dr. Charles M. White, Wichita, is the new president of the group, Dr. William R. Allen, Kansas City, is vice president, and Dr. Willis L. Beller, Topeka, is secretary-treasurer.

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Pathologists Meet

Members of the Kansas Society of Pathologists held their annual meeting in Kansas City on April 29. The following officers were elected: president, Dr. James O. Boley, University of Kansas Medical Center; vice president, Dr. Ann Pollak, University of Kansas Medical Center; secretary, Dr. Ward W. Summerville, Bethany Hospital, Kansas City.

The group decided to arrange a regional meeting of the College of American Pathologists, tentatively set for March, 1953, at the University of Kansas Medical Center, under the joint sponsorship of the Kansas Society of Pathologists and the Missouri Society of Pathologists. It was planned to invite Dr. Paul Kimmelstiel of Charlotte, North Carolina, as principal speaker.

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Meeting of General Practitioners

Members of the Kansas Academy of General Practice held an all-day scientific, business and social meeting at the Town House, Kansas City, on April 28. Guest speakers presented the scientific portion of the program and Dr. George Thorpe, Wichita, presided at the business session. A banquet, program and dance concluded the day's events.

Dr. A. C. Harms, Kansas City, took office as president at the close of the session. Dr. George E. Burket, Jr., Kingman, was named president-elect; Dr. Lawrence E. Leigh, Overland Park, vice president; Dr. Gerhart R. Tonn, Wichita, secretary-treasurer.

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Anesthesiologists Meet

A meeting of the Kansas Society of Anesthesiologists was held in Kansas City on April 30, and the group chose Dr. Paul H. Lorhan to serve as its president during the coming year and as its delegate to the national association of anesthesiologists. Dr. Floyd C. Taggart, Topeka, who is treasurer of the group, is alterate to the national organization. Dr. L. L. Bresette, Kansas City, was elected vice president, and Dr. Wray Enders, Kansas City, was named secretary.

Tentative plans were made for a fall meeting in 1952 and a spring meeting in 1953 at the time of the annual session of the Kansas Medical Society. It was decided that a guest speaker be invited to address the group at the spring session.

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E.E.N.T. Section Elects

A business meeting of physicians engaged in E.E.N.T. practice was held in Kansas City in connection with the scientific program for those specialists. Elected to serve the organization as officers during the coming year are Dr. D. D. Vermillion, Goodland, president; Dr. George F. Gsell, Wichita, vice president, and Dr. James E. Hill, Arkansas City, secretary.

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Kansas Psychiatric Society Meets

At the annual meeting of the Kansas Psychiatric Society, the following officers were elected for the 1952-1953 year: president, Dr. William F. Roth, Jr., Kansas City; vice president, Dr. William Rottersman, Topeka; secretary-treasurer, Dr. John R. Adams, Topeka; councilors, Dr. Frank F. Meeker, Topeka, and Dr. John Grimshaw, Topeka.

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Woman's Auxiliary Meets

The annual meeting of the Woman's Auxiliary to the Kansas Medical Society was held in Kansas City, April 28-30. Mrs. Robert E. Pfuetze, Topeka, took office as president at the close of the session. Others elected to serve with her during the coming year are: president-elect, Mrs. I. Joseph Waxse, Oswego; first vice president, Mrs. Barrett A. Nelson, Manhattan; second vice president, Mrs. Edwin M. Harms, Wichita; third vice president, Mrs. James L. Jenson, Colby; recording secretary, Mrs. E. R. Millis, Kansas City; treasurer, Mrs. Herbert T. Schmidt.

Four councilors were to be elected this year, and the following were chosen: Mrs. Francis C. Basham, Eureka; Mrs. Joseph J. Hovorka, Emporia; Mrs. R. T. Unruh, Kinsley; Mrs. John O. Austin, Garden City. Named to the Nominating Committee were Mrs. Mark A. Brawley, Frankfort; Mrs. John A.

Billingsley, Kansas City; Mrs. Louis A. Donnell, Wichita; Mrs. Tyler D. Blasdel, Parsons, and Mrs. L. S. Nelson, Sr., Salina.

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Medical Assistants Elect

Mrs. Charlotte Parish, Wichita, was installed as president of the Kansas Medical Assistants' Society on April 28 at the close of the group's two-day annual meeting. The following officers were chosen to serve with her during the coming year: Mrs. Lerah Lacey, Topeka, president-elect; Miss Alice Marie Grosdidier, Kansas City, vice president; Miss Mary Ellen Babb, Wichita, secretary, and Miss Carmen McKnight, Winfield, treasurer. One councilor was elected at the meeting, Mrs. Ruth Sieverling, Wichita, who will represent the third district of the state.

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Sports Events

The Kansas Medical Golfing Association and the Kansas Medical Skeet and Trapshooting Association provided entertainment for physicians in Kansas City on Monday, April 28, the day before the 93rd annual scientific session of the Kansas Medical Society. A tournament banquet for both groups was held that evening at the Milburn Country Club, and prizes were awarded the winners of the various events.

At a short business session, Dr. George D. Marshall, Colby, and Dr. Raymond J. Leiker, Great Bend, were chosen to head the sports organization during the coming year. Dr. Fred N. Bosilevac, Kansas City, was named to serve as secretary-treasurer.

Prizes for golf were awarded by flights. The following received prizes:

Championship flight: low gross, Dr. Glen Ashley, Chanute; low net, Dr. George F. Gsell, Wichita; second low gross, Dr. H. P. Jones, Lawrence; second low net, Dr. M. W. Carlson, Ellinwood.

First flight: low gross, Dr. J. W. Shaw, Wichita; low net, Dr. J. R. Weaver, Wichita; second low gross, Dr. H. Lee Barry, Wichita; second low net, Dr. J. D. Taylor, Norton.

Second flight: low gross, Dr. C. J. Mullen, Kansas City; low net, Dr. Weir Pierson, McPherson; second low gross, Dr. J. L. Wentworth, Arkansas City; second low net, Dr. Byron J. Ashley, Topeka.

Third flight: low gross, Dr. L. C. Joslin, Harper; low net, Dr. E. H. Clayton, Arkansas City; second low gross, Dr. John N. Martin, Kansas City; second low net, Dr. W. D. Pitman, Pratt.

Oldest golfers: Dr. J. A. McLaughlin, Wichita; Dr. E. A. Smiley, Junction City; Dr. C. V. Minnick, Junction City. Door prize: Dr. A. L. Ashmore, Wichita.

In the trapshooting competition, honors for high trap went to Dr. E. A. Smiley, Sr., Junction City; second high trap, Dr. J. L. Jenson, Colby; third, Dr. W. A. Smiley, Junction City; fourth, Dr. L. W. Hatton, Salina, and Dr. R. E. Cheney, Salina, tied; tyro, Dr. L. S. Roberts, Wichita.

Other prize winners were: Dr. F. L. Loveland, Topeka; Dr. C. V. Minnick, Junction City; Dr. Haddon Peck, St. Francis; Dr. R. R. Sheldon, Salina; Dr. Murray C. Eddy, Hays, and Dr. H. E. Haskins, Kingman.

Listed below are the prizes awarded and the names of the contributors: championship plaque, Quinton Duffens Optical Company; shirt, Eli Lilly and Company; electric clock, Abbott Laboratories; whiskey, Goetze Niemer Company; golf balls, E. R. Squibb and Sons; sun glasses, American Optical Company; golf balls, Ortho Pharmaceutical Corporation; fan, A. S. Aloe Company; book ends, Mead Johnson and Company; cuff links and sun glasses, Armour Laboratories; disposal cans, Munns Medical Supply Company; sutures, Ethicon Suture Laboratories; *Current Therapy,* W. B. Saunders Company; Norma pencils, Ciba Pharmaceutical Products, Inc.; mattress, Sealy, Inc.; billfold, cuff links and sutures, Wm. P. Poythress and Company, Inc.; Skotch cooler, Burroughs Wellcome and Company, Inc.; Scotch whiskey, Ayerst, McKenna and Harrison; *Medical Emergencies,* F. A. Davis Company; gun cleaner, Baxter Laboratories, Inc.; *Merck Manual,* Merck and Company, Inc.; golf balls, Doho Chemical Corporation; deodorant and shaving lotion, Mennen Company; $10 in products, Lanteen Medical Laboratories, Inc.; Syncrobin, Schenley Laboratories, Inc.; vitamin B-12, Smith-Dorsey; bathroom scale, American Hospital Supply Corporation; soap, Ar-Ex Cosmetics, Inc.

An accurate description of public health in this country today would hardly be valid for vast areas of the world. In many parts of the world the absence of simple personal and community hygiene underlies most of the health problems, and such diseases as malaria, intestinal disorders, and tuberculosis account for a very high proportion of deaths and disability. It would be necessary to go back, therefore, as much as a century in our own history to seek a suitable content for health programs in underprivileged parts of the globe today. Health problems cannot be isolated from the environment —both physical and social—in which they exist. Such factors as the individual's job, his family life, his housing, his recreation must all be assayed for their impact on health and disease. In other words, we must now not only put emphasis on the individual and his needs, but also consider him in relation to his whole complex socioeconomic environment.—*Joseph W. Mountin, M.D., Pub. Health Reports, March, 1952.*

Case Reports From The University of Kansas Medical Center Tumor Conference*

TUMORS OF THE PAROTID REGION

Edited by R. E. Stowell, M.D., and D. M. Gibson, M.D.**

Case No. 51-111

T. F., a 29-year-old white woman, entered the hospital with a history of a tumor in the region of the parotid gland of five years' duration. The tumor was removed approximately six months before admission to this hospital and diagnosed as a mixed tumor. Because of recurrent nodularity in the same region, the patient was referred to this hospital. Findings revealed a small nodule approximately two cm. in diameter just below the left ear, which was firm, slightly movable and non-fluctuant. There was a linear scar about six cm. long over the apex of this tumor running in approximately the direction of the mandible. A partial removal of the parotid gland was accomplished.

Dr. Boley: Histologically, this is a fairly well encapsulated tumor mass that is composed predominantly of light basophilic staining stroma, with occasional epithelial nests that are frequently in acinar formation (Figure 1). The myxomatous stroma has foci which resemble embryonal cartilage, and osteoid formation is occasionally suggested. Because of the epithelial elements and the mesodermal appearance of the stroma, these tumors have been called "mixed tumors." The prevalent opinion now is that the tumor is of epithelial origin and the ground substance is material secreted by the epithelial cells.

These tumors may give rise to carcinomas; it is not uncommon to find a benign mixed tumor with an invasive carcinoma superimposed. Many of these tumors are not as well encapsulated as this one was. They may be of multicentric origin, which may partially explain the high rate of recurrence. Repeated recurrence, therefore, does not necessarily imply malignancy.

Dr. Robinson: Some recurrences may be explained on the basis of multicentric origins, but many are attributable to the fact that the surgeon, in his zeal to avoid the facial nerve, does not completely remove the tumor.

The most common tumor of the parotid gland is the mixed tumor. It is not difficult to make a positive diagnosis unless the location is in the retromandibular area. These tumors are firm and are usually well defined; they are round and may be somewhat lobulated; they are slightly movable and are usually non-tender; the most common location is in the angle of the jaw. If the tumor is fixed, or is quite tender, or cannot be well defined, then one must think of other possibilities, although these factors do not rule out mixed tumors.

The anatomy of this region is of great importance to the surgeon because the facial nerve lies so close to the origin of these tumors that it is not infrequently damaged during the resection. The tumor should preferably be removed without biopsy through a large incision and a large subcutaneous flap. By simply enucleating the tumor mass from the capsule there are the fewest number of facial nerves injured, but there are also the greatest number of recurrences. We feel that the tumor should be completely removed, with the capsule and a small rim of surrounding uninvolved salivary tissue. Unfortunately the tumor often displaces some of the branches of the facial nerve around the margin of the mass, so that it is difficult to get all the tumor out and leave the twigs intact. One can sum up the treatment by saying that it is surgical; it should be total the first time; and, if one leaves a rim of nor-

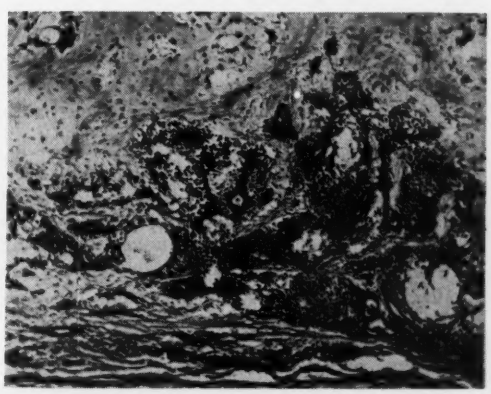

Figure 1. Photomicrograph of mixed tumor of parotid (case 51-111) showing epithelial and mesenchymal components. Hematoxylin and eosin stain. X 80 magnification.

*Cancer teaching activities aided by a grant from the National Cancer Institute and the Kansas Division of the American Cancer Society.

**Postdoctoral Clinical Research Fellow of the Damon Runyon Memorial Fund for Cancer Research.

mal parotid tissue around the outside of the capsule, he will not get recurrence unless the tumor is of multicentric origin.

Dr. Stowell: Dr. Robinson, what about the rate of growth of this type of tumor, and does it appear to change following treatment or partial removal?

Dr. Robinson: There is a tendency for the tumor to grow more rapidly when it has been molested. When it recurs, the histological type of each recurrence tends to be more malignant. Therefore, one should make every effort to get it out entirely the first time. The unoperated tumors are usually slow in their development. Sometimes a patient will have a painless lump which may stay the same size for 5 or 10 years before it begins to enlarge.

Dr. Stowell: Dr. Tice, does radiotherapy play a role in this type of tumor?

Dr. Tice: These tumors are not radiosensitive, so x-ray therapy is not the primary treatment for them. Some routinely give postoperative radiation therapy because of the tendency for recurrence. I think perhaps this may slow them down a bit by the fibrosis which develops.

Case No. 51-112

S. M., a 60-year-old white man, entered the University of Kansas Medical Center in February, 1951, because he had noted a small slowly growing tumor on the right side of the face overlying the angle of the right mandible. There was no pain, tenderness, or drainage from this area. Physical examination showed a small egg-sized tumor mass, freely movable, under the skin overlying the ramus of the right mandible. On February 13 this mass was removed. The patient was again admitted to the hospital in June, 1951, because of congestive cardiac failure. An asymptomatic two by three cm. firm mass in the retromandibular area was noted at this time and surgical excision with local anesthesia was done.

Dr. Boley: This is a well encapsulated tumor. It is composed of irregular papillary processes and has abundant lymphoid elements, with occasional germinal centers. The papillary processes are lined with tall acidophilic columnar epithelium. Thompson and Bryant[1] believe that these cells arise from ducts of the salivary glands and that the lymphoid elements that are so prominent in these tumors may be due to chronic inflammatory change rather than being an integral part of the tumor. The tumor is a papillary cystadenoma lymphomatosum, or Warthin's tumor. These tumors are almost universally benign.

Dr. Robinson: In 1943,[2] there were only about 67 of these tumors in the world's literature. Since then perhaps as many as 200 of these relatively rare tumors have been recorded. They are generally be nign. It was our opinion[2] that these were embryon rests of ductal tissues which grew progressively at later stage in life. Grossly the tumor is well en capsulated and is soft, in contrast to the firm nodular mixed tumors. They often contain opaque turbid or granular yellow or brown fluid. These tumors are not as easy to remove as mixed tumors because they are not quite so firm and do not hav a firm capsule. They will recur if not removed com pletely. This patient had a recurrence, or perhaps new tumor that started from the original rest. The treatment is entirely surgical.

Case No. 51-113

M. B., a 68-year-old white woman, entered the hospital because of a slow-growing mass in the right parotid region of one year's duration. Two weeks prior to admission the mass enlarged rapidly and became firm; it was associated with lancinating pain extending anteriorly and superiorly, these symptoms being unrelated to food ingestion. Physical examination disclosed a hard smooth mass approximately 3.5 cm. in diameter just anterior to the right tragus. No cervical adenopathy was noted. A wide surgical excision of the mass was undertaken, deliberately sacrificing the branches of the facial nerve. The tumor appeared fairly well encapsulated and extended into the deeper lobes of the parotid and also into the retromandibular area. The patient exhibited a facial paresis postoperatively.

Dr. Boley: In some areas the tumor is encapsulated, while in other areas it is invading the surrounding parotid gland. The tumor is surrounded by proliferating fibrous tissue containing some lymphocytes. The nests of tumor cells are generally small, but some are large with central necrosis. This is a carcinoma of the parotid gland. There is no evidence of a pre-existing mixed tumor, so that presumably the carcinoma arose from the glandular substance of the parotid.

Dr. Robinson: The problem of treatment is more difficult in these cases. We do not feel that biopsies are indicated for masses of the parotid region if one can be reasonably sure of the diagnosis. A firm, moderately discrete mass in the parotid region, which seems to be fixed to the mandible or adjacent structures, should be considered clinically as a carcinoma. However, one cannot be sure clinically, and a radical operation is unjustified when one is dealing with an inflammatory process or a mixed tumor that just feels like a malignant tumor. Usually the patient has had prior surgery with a biposy report of carcinoma of the parotid gland.

If it is frank cancer, it is obligatory that one remove the whole area and pay no attention to the

surrounding structures. However, in a borderline type of malignancy, which we classify as mucoepidermoid carcinoma, are we justified in sacrificing the facial nerve? Our attitude has been that if the tumor is reported as a borderline malignancy, we have done a total parotidectomy with salvage of the facial nerve. A total parotidectomy is an operation that requires diligence, patience and meticulous attention to detail. It usually takes three or four hours to do a total removal of the parotid and save all of the twigs of the facial nerve. If the patient does have a frank carcinoma of the parotid gland, he not infrequently will have metastases to the cervical nodes, in which case he should have at least an upper neck dissection with removal of the glands. In more advanced malignancy he should have complete radical neck dissection with removal of the glands.

I think postoperative radiation therapy might give a little better chance. It has been said that carcinoma of the parotid gland does not metastasize below the neck; this is not so, as there have been cases of pulmonary metastases. The tumor is usually worse in younger patients.

Dr. Boley: Cylindromas and mucoepidermoid carcinomas are considered as low grade malignancies. McFarland[3] has reviewed about 400 parotid tumors. He submitted slides from various tumors to different pathologists, and found that there was a great deal of disagreement as to the possibility of recurrence of these tumors.

Dr. Robinson: One should not give preoperative radiation therapy to this type of tumor if one hopes to save the facial nerve. I have done some resections on patients who had received considerable radiation therapy and it is virtually impossible to save the facial nerve because of the fibrosis.

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COUNTY SOCIETIES

Endorsement and support of Blue Cross-Blue Shield enrollment in Leavenworth County was voted by the Leavenworth County Medical Society at a meeting held May 12. Members designated their offices as information and enrollment centers for the drive held May 17 to 26.

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The last meeting of the Shawnee County Medical Society for the spring season was held at the Hotel Jayhawk, Topeka, May 6. The speaker for the evening, Dr. J. B. Christensen of Omaha, discussed "The Diagnosis and Treatment of Ano-Rectal Complaints."

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Dr. Andrew S. Tomb, Victoria, Texas, was speaker at a meeting of the Sedgwick County Society held at the Allis Hotel, Wichita, on May 6. His subject was "The General Practitioner Treats the Problem Drinker."

The society's Committee on Indoctrination, headed by Dr. George F. Gsell, presented a program for new members of the organization on April 8. Fifty-two of the 66 members who have been admitted since the last indoctrination meeting three years ago were present.

The following program was presented: "The Physician's Responsibility and Medical Ethics," Dr. R. H. Maxwell; "History of the Sedgwick County Medical Society," Dr. H. C. Clark; "Services of the Sedgwick County Medical Society," Mr. H. Martin Baker; "Services and Duties of the Kansas Medical Society," Mr. Oliver E. Ebel, Topeka; "Services and Duties of the A.M.A.," Dr. Laurence S. Nelson, Salina.

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A joint meeting of the Wilson County Medical Society and Auxiliary was held at the Blue Tea Room, Neodesha, on May 14.

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Members of the Geary County Medical Society were guests of the druggists of Junction City at a dinner meeting at the Bartell Hotel on May 22. The program included a discussion of the new federal law pertaining to prescriptions.

DEATH NOTICES

WILLIAM R. KENOYER, M.D.

Dr. W. R. Kenoyer, 54, an active member of the Ford County Medical Society, suffered a fatal heart attack while attending a patient on April 16. He had practiced in Hugoton since 1932 except for three years in the Army during World War II, when he served in Africa, Italy and Germany. He was active in medical affairs in his community and was serving as coroner of Stevens County at the time of his death. A memorial fund, to purchase equipment for the Stevens County Hospital, is being collected in his honor. Dr. Kenoyer received his medical education at the University of Kansas School of Medicine, from which he was graduated in 1931.

ACTIVITIES OF MEMBERS

Dr. James G. Lee, Bonner Springs, who has been practicing for 60 years, announced his retirement on May 1. He has practiced in De Soto, Eudora and Bonner Springs, and estimates that he has delivered 3,000 babies during his 60 years in medicine.

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Dr. J. J. Hovorka, Emporia, spoke on cancer at the May meeting of the Fourth District Nurses Association.

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Dr. Wallace Lane, El Dorado, was elected vice president of the Kansas Public Health Association at a meeting held in Kansas City last month.

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Dr. and Mrs. A. C. Gulick, Goodland, who observed their 50th wedding anniversary last month, were guests of honor at a surprise party given by the Goodland Rotary Club.

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More than 800 persons were present in Kingman recently on "Dr. Haskins' Day" when the community honored Dr. Harry E. Haskins on his 50th anniversary in the practice of medicine.

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Dr. William C. Menninger, Topeka, was elected a governor of the American College of Physicians at a meeting held in Cincinnati in April. Dr. Harold H. Jones, Winfield, was elected to the board of regents.

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Dr. J. G. Hughbanks was elected head of the nwely organized City Shrine Club in Independence.

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Dr. Rodger Moon, who has been practicing in Emporia since 1946, has begun a three-year residency in child psychiatry at the University of Kansas Medical Center.

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Dr. Frank Lenski, Jr., who has been associated with his father in practice in Iola, has been called to active duty in the National Naval Medical Center, Bethesda, Maryland.

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Dr. Harry E. Haskins, Kingman, and Dr. M. C. Ruble, Parsons, were recently reappointed to the Kansas State Board of Medical Registration and Examination for four-year terms.

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Dr. D. Cramer Reed, Dr. Robert Norris, Dr. W. C. Goodpasture and Dr. R. A. Nelson, all of Wichita, were speakers at a recent meeting of the Kansas Society of Medical Technologists. The meeting was held in Wichita.

A basket dinner was a feature of a week-long celebration in Strong City last month in honor of Dr. Jacob Hinden, who has completed 50 years of practice in the community.

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Dr. R. H. Edmiston, a physician in Lawrence for the past 33 years, retired last month and was a guest of honor at a dinner given by the Douglas County Medical Society. Dr. Edmiston is now visiting in Virginia.

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Dr. C. M. Miller, Oakley, was presented a 50-year membership emblem at a district Masonic meeting held in Oakley in April.

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Dr. D. B. McKee spoke on socialized medicine before the Rotary Club in Pittsburg on May 13.

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Dr. W. E. Currie, who has practiced in Sterling for 51 years, has retired because of illness. He has attended six generations of one family in the community.

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Dr. Vernon M. Winkle has resigned as health director for Kansas City and Wyandotte County to become director of local services for the Kansas State Board of Health. His successor in the city-county position in Kansas City will be Dr. H. W. Lane, who is now health director for Butler and Greenwood counties.

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Dr. E. Russell Jacka, a member of the psychiatric department of the Hertzler Clinic, Halstead, for the past four years, has resigned that position to enter private practice in psychiatry in Wichita.

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Dr. J. P. Berger, Wichita, spoke over radio station KFH on April 14. He discussed cancer from the lay standpoint and told of facilities available in Wichita for treatment of cancer.

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Dr. Philip W. Morgan, Emporia, president of the Kansas Heart Association, has announced the appointment of Dr. Harold Jones, Winfield, as chairman of the association's program committee, Dr. E. Grey Dimond, Kansas City, as chairman of the clinic committee, and Dr. D. R. Davis, Emporia, as head of the rheumatic fever committee.

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Dr. Jack W. Graves, Wichita, recently became a diplomate of the American Board of Surgery.

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Dr. Victor E. Chesky, Halstead, spoke on "Chronic Thyroiditis" at a meeting of the International College of Surgeons held in Kansas City late in April. Dr. Ferdinand C. Helwig, Kansas City, spoke on

"Surgical Jaundice" and participated in a panel discussion.

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Dr. Ralph H. Major, professor of medicine and the history of medicine at the University of Kansas Medical Center, was awarded a doctor of letters degree from the University of Cincinnati at exercises held May 27.

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Dr. Henry H. Loewen, Wichita, went to Chicago early in May for a postgraduate course at the Cook County Graduate School of Medicine.

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Dr. Ivan R. Burket, Ashland, who received his degree from the University of Kansas School of Medicine in 1910, was chosen as one of five alumni to receive the K. U. Alumni Association's award for distinguished service. The citations were presented on June 1.

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Dr. Donald H. Macrae, Topeka, has announced plans to seek reelection as coroner of Shawnee County.

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Dr. A. C. Eitzen, Hillsboro, has announced that Dr. Peter D. Enns, formerly of Kansas City, is now associated with him in practice.

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Dr. J. F. Casey has resigned as manager of Winter V.A. Hospital, Topeka, to become chief of the hospital psychiatric section of the V.A. central office in Washington. Dr. R. C. Anderson, who has been in the professional services division at Winter Hospital for the past three and a half years, will replace Dr. Casey as manager.

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Dr. Norman L. Claybourn, who formerly practiced in Fort Scott, has accepted a position as medical director for the Procter and Gamble Soap Company in Amarillo, Texas.

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Dr. H. O. Marsh, Wichita, was speaker at the May meeting of the Sedgwick County Medical Assistants' Society. His subject was "The Everyday Miracle."

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Dr. L. Claire Hays, Cedar Vale, announces that Dr. Dale Clark of Kansas City will be associated with him in practice in Cedar Vale and Sedan after July 1.

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Dr. R. S. Roberts represented the Franklin County Medical Society at a conference held in Ottawa last month to discuss precautions to be taken in milk handling because of an outbreak of anthrax in cattle.

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Dr. Allen J. Enelow has resigned as head of the out-patient department at Topeka State Hospital to enter private practice in Los Angeles. Dr. Howard V. Williams, staff psychiatrist at the institution since 1949, will replace Dr. Enelow.

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Dr. L. J. Ruzicka, Concordia, was speaker at a meeting of the Rotary Club in that city last month. He told of the history and practice of anesthesiology.

Matching Plan for Internships

A national matching plan has been used for the first time this year to place new interns in hospital appointments, according to a recent report from the Association of American Medical Colleges. The project was designed to lessen the confusion which has resulted in the past when hospitals were seeking 10,000 interns from a graduating class of 6,000.

The plan, sponsored by the National Interassociation Committee on Internships, provides for hospitals and students to contact each other freely during the student's senior year. Both file confidential ratings with the committee, and the two are then matched, with the student receiving the internship he prefers most if this agrees with the hospital's rating of him.

Success of the plan is indicated by the fact that 84 per cent of this year's new interns were matched with the hospital they indicated as first choice, and an additional 10 per cent received their second choice placement. Seventy-four per cent of the hospitals received the student they designated as first choice.

Approximately 95 per cent of this year's interns participated in the plan and 98 per cent of the hospitals offering internships.

Life insurance companies of the United States and Canada will give more than $780,000 this year for research in heart disease, it was announced recently by the Institute of Life Insurance. This brings to $4,700,000 the total amount given since the Life Insurance Medical Research Fund was organized in 1945.

Funds are used entirely on research on diseases of the heart and blood vessels. Grants are given to medical schools and research centers, and fellowships are awarded young doctors working in research fields.

The death rate for 1951 was 9.6 per 1,000 population, according to the Federal Security Agency. This is 10 per cent lower than in 1940. The average life expectancy at birth has risen to 68 years, compared with 47 at the turn of the century.

BLUE SHIELD

Economy Program

At the annual meeting of the Blue Shield Relations Committee, April 29, a report was made on the development of the Blue Cross-Blue Shield economy program which has been under way during the past year. Here is a digest of the report.

How Much Hospital Care Should People Have?

We start our discussion on the economy program by asking a question that cannot be answered and should never be answered. If such a question had been *answered* 100 years ago the modern hospital of today would not exist.

The answer moves on from day to day and is made up of thousands of individual decisions of doctors, patients, changing methods of treatment, more efficient hospital practice and other factors too subtle to trace.

The key problem in our economy program is this: averages are made up out of thousands of individual decisions; but averages cannot be turned around and applied to individual decisions.

In our approach to the economy program we have avoided terms like "abuse," "excessive" and "unnecessary." Instead, we have presented factual information on *differences* in use, admission rate, length of stay.

There is one phrase we have used which may be questioned. We don't exactly know what we mean by it ourselves. It is:

"Natural Practice"

By this we think we mean: "What the doctor would have done for the patient irrespective of ability to pay."

Even this gets into trouble on analysis. If a person pre-pays through Blue Cross, is he not trying to *increase* his ability to pay so that he may have the best of care? Thus the concept of "Natural Practice" keeps expanding.

We had better come back to the relatively safe ground of *differences.*

If generally successful treatment is being carried out in one area on the basis of a shorter length of stay, less drugs, diagnostic aids, etc. . . . then those in areas where similar medical problems are treated on a much longer, more costly basis, may wish to know these facts and think about them.

The basic assumption in our economy program is this: doctors and hospitals would prefer to keep patient costs as low as possible, consistent with contemporary concepts of need.

Thus in essence our economy program is an *information* program. Here is the information (condensed):

IN-PATIENT DAYS PER 1,000 MEMBERS

	Blue Cross Kansas	Blue Cross National	Blue Cross Oklahoma
1949	953	880	828
1950	1,020	895	889
1951	1,091	905	832

In 1951 Blue Cross members in Kansas used 74,400 more days of hospital care than they would have on the basis of the average national rate of use. Compared to Oklahoma, Kansas members used 103,600 more days. At an average cost to Blue Cross of $9.44 per day, Kansas members financed $977,984 more in hospital care than would have been necessary at the Oklahoma rate of use.

The above shows that there are significant differences between Kansas and other areas.

Wide Variations Inside Kansas

In studying the Blue Cross experience within the state we find a considerable variation in the utilization of service. Listed below are a few sample counties which demonstrate in terms of loss ratio these wide variations:

County	No. of Members	Per Cent of Pop. Enrolled	Per Cent of Loss Ratio
A.	1113	17	61.95
B.	1205	40	100.48
C.	890	44	161.44
D.	1875	24	63.67
E.	7215	34	76.94
F.	9514	32	85.44
G.	1488	22	198.50

These broad figures indicate considerable variations in the practice of medicine, the cost of care in the hospital and perhaps in the spread of risk. In small groups fluctuations can also be great and should be expected. A more detailed study in some of the higher use areas indicates a wide range of practice. For example, a study of the cost for hospital care for normal appendectomies shows that in one hospital the average drug charge for these appendectomies was $9.38 per case, whereas in another hospital the average drug charge was $71 per case. They were not unusual cases in the latter instance.

It is our plan to make more detailed analyses along the lines just cited in order that we may bring more specific information to the medical profession in those areas which are higher use areas than others.

Variations in Hospital Costs and Charges

Just as in the matter of use of service there is also considerable variation in the cost and charge for hospital services. While Kansas as a state compares favorably with other states in average hospital costs and charges, there is a wide enough range in costs and charges within the state to justify careful analysis.

For example, the per diem overall charge to Blue Cross members during the last half of 1951 ranged from a low of $8.26 per day to a high of $22.88. The average for the entire state showed a per diem charge of $14.15 per day. The hospital showing a $22 per day charge had an occupancy rate of 42 per cent. Therefore, many factors have a bearing on these charges which need to be analyzed most carefully.

Drug Study

We are cooperating with the Kansas Hospital Association through its Blue Cross Relations Committee in developing an extensive study of drugs and drug charges. It was found during the course of this study that about 70 per cent of all drug charges were for antibiotics and intravenous solutions. Therefore, the study has concentrated on these items. Here again we find a wide range of mark-up made by the various hospitals for their drug items. The Blue Cross Relations Committee is planning a program of information on these variations in the hope that a more uniform pricing policy will evolve.

Meetings With Doctors

During 1951 and 1952 the Blue Shield Relations staff has discussed the economy program with 663 physicians in various hospital staff and county medical society meetings. The discussions have taken the form of an information program very much along the line of the information presented in this report. In no instance has a physician found cause to complain about the approach we have taken in presenting this information. It is too early yet to tell whether or not the economy program will have any effect upon the utilization of service. Studies will be continued to estimate this effect, if any, during the coming year.

Summary

1. Kansas Blue Cross members use services to a considerably greater extent than in most other areas.

2. There are wide variations in use and in medical practice within Kansas.

3. There are wide variations in hospital costs, and pricing policies.

4. At the present time the hospital payment arrangement and the Blue Cross contract have no significant controls which would affect or tend to reduce the use of service.

5. The economy program must be presented as an information program.

6. It will be effective only to the extent that the individual physicians making their own individual decisions attempt to reduce patient costs toward the level of natural use.

7. If the economy program is not effective on a voluntary basis, the time may come when the Blue Cross and all of those who contribute to policy making, such as the hospital association, the Blue Cross Relations Committee, Blue Shield Relations Committee and the State Members' Committee, must face the question as to whether or not they want to set up contractual inhibitions on the use of service.

Radioactive Cortisone for Research

Radioactive cortisone for use in medical research will be manufactured with the aid of funds from the National Institute of Arthritis and Metabolic Diseases, it was announced recently by the Federal Security Agency.

It is thought that radiocortisone will be a valuable tool for scientists, particularly those studying arthritis and the various metabolic diseases involving adrenal gland hormones. Further knowledge of the hormones might benefit 7,500,000 Americans who suffer from rheumatic disease.

The substance has not been produced in sufficient quantity for research studies in the past, but non-radioactive cortisone has been used increasingly in the treatment of rheumatoid arthritis and other diseases since 1948, when workers at the Mayo Clinic discovered its therapeutic value.

The radioactive product will be "tagged" so that cortisone can be traced through the bodies of experimental animals to learn how it produces its effects in health and disease.

A fund of $66,000 will be administered by a small committee of scientists from non-federal research institutions. The product will be distributed to qualified scientists who submit formal research proposals to the National Institute of Arthritis and Metabolic Diseases.

The indisciminate advertising of so-called "wonder drugs" in the lay press was condemned in the inaugural address of the president of the Fifth World Health Assembly, now meeting in Geneva.

"There has been too frequent use of the word 'wonder,'" Dr. Juan Salcedo said, "which, in view of the still experimental nature of some of these products, may be misleading. As a result, inadequate treatment is being attempted, symptoms are masked, resistance is created to future measures, and the basic factors of disease control are ignored by the public, gullible—or desperate—enough to want a speedy cure."

The lowest point ever recorded in infant mortality figures was reported recently by the Federal Security Agency. Infant mortality in 1951 was 20 per 1,000 live births, which is impressive when considered with the rate in 1915, 100 per 1,000.

Senior Thesis from the University of Kansas Medical School*

The Adrenal Cortex and Carbohydrate Metabolism**

Charles E. Krause, M.D.
Kansas City, Missouri

Introduction

Since ACTH and cortisone have become available in quantities large enough to permit their extended use, many workers have reported improvement in "diverse diseases" from treatment with the new drugs. Some attempts have been made to study the effects of the drugs on the body's basic physiology. Most of these efforts have been directed toward a better understanding of the effects on body chemistries, fluid balance, and carbohydrate metabolism.

It shall be the purpose of this paper to trace a few of the developments in our understanding of the role of the adrenal cortex in carbohydrate metabolism.

Early Work With Adrenal Cortex

In 1932 Britton and Silvette[1] reported their results in experiments with an extract of whole adrenal cortex. Using normal cats, rats and rabbits, they obtained elevations in values for blood glucose and for liver and muscle glycogen. The elevations were observed within one hour after injection and persisted in some degree for as long as six hours.

In adrenalectomized animals Britton and Silvette[2] found the values for blood glucose and for liver and muscle glycogen to be reduced below normal, blood glucose and liver glycogen being chiefly affected. They were able to bring about recovery of adrenalectomized animals which were in the terminal stages of insufficiency by administration of cortico-adrenal extract. These workers concluded that the primary function of the adrenal cortex was with carbohydrate metabolism and believed that the death which followed adrenalectomy was due, for the most part, to the disturbance in carbohydrate regulation. So impressed were they with the increases in liver glycogen following use of adrenal cortex extract that they suggested that the increments in hepatic glycogen might form the basis of a relatively simple and economic means of testing the potency of any adrenal extract. They emphasized that recovery of adrenalectomized animals following administration of cortico-adrenal extract was closely correlated with the increases in liver glycogen.

In 1934 these workers[3] reported further experiments with glucose injections in adrenalectomized and normal animals and again emphasized the almost complete inability of the adrenalectomized animals to store glycogen in the liver and to maintain normal values for blood glucose, even with repeated injections of glucose or sodium lactate.

In 1941 Britton and Corey[4] reported work done with adrenalectomized, pancreatectomized, and adreno-pancreatectomized cats. They observed cortico-adrenal extract to be well able to form liver glycogen in the absence of the pancreas but found that insulin was not able to do so in the absence of the adrenal cortex. They concluded that, while insulin might affect favorably the formation of glycogen in muscle, glycogenesis in the liver was largely dependent on the carbohydrate hormone of the adrenal cortex.

Role of the Pituitary

In 1943 Browne et al[6] reported the case of a 40-year-old normal male who developed an abnormally high glucose tolerance curve on the third day of injection of a preparation of anterior pituitary extract. There was also some glycosuria during the time of the curve.

At the present time it is generally accepted that the anterior pituitary produces a hormone which is specific for the adrenal cortex, called adrenocorticotropic hormone or ACTH. In response to stimulation by ACTH, the adrenal cortex produces a number of hormones, one or more of which acts to hold in check the production of ACTH by the pituitary. It is important that this checking effect of the adrenal hormones on the anterior pituitary be understood for it is probably by this method in a large part that the normal body is able to balance and control the anterior pituitary-adrenal cortex system. This control may be compared to that of the anterior pituitary-thyroid system and others.

It has not been established that ACTH has any effect on body physiology, other than through the adrenal hormones whose formation it stimulates.

The anterior pituitary also produces a specific inhibitor of the enzyme hexokinase which will be discussed later.

Functions of the Adrenal Hormones

For the purpose of this brief study we may consider the hormones of the adrenal cortex to be separated into three somewhat distinct groups according to function.[13] It is to be emphasized that mem-

*This is one of 11 senior theses selected for publication by the Editorial Board from a group of 15 judged the best by the faculty of the University of Kansas School of Medicine.

**Thesis written while the author was a senior student at the University of Kansas School of Medicine. Dr. Krause is now serving his internship at General Hospital, Kansas City, Missouri.

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AUTHORS	No. of Patients	Chronic, Resistant to Other Therapy	TYPES OF ULCERS				RELIEF OF SYMPTOMS (Chiefly Pain)				Surgery or Compli-cations[1]	Side Effects Requiring Discontinuance of Drug[2]	EVIDENCE OF HEALING			
			Duodenal	Jejunal	Stomal	Gastric	Good	Fair	Poor	No Report			Complete	Moderate	None	No Report
Grimson, Lyons, Reeves	100	100	93	7			80	11	4		5		47		19	29
Friedman	15	15	14			1	5		4	6[3]			2			13
Bechgaard, Nielsen, Bang, Gruelund, Tobiassen	26	26	21			5	16	4	6				8	6	12	
McHardy, Browne, Edwards, Marek, Ward	162		162				136	12	11		3	1	14	9	7	129
Segal, Friedman, Watson	34	34	34[4]				14	13			7	2	5		8	14
Brown, Collins	117	99	117				97	7	8		5	8	55	9	8	40
Asher	77		65		7	5	52	9	16			16		9	21	47
Rodriguez de la Vega, Reyes Diaz	5	4	5				4		1					3	2	
Winkelstein	116	116	102	8		6	102		14				53		18	45
Hall, Hornisher, Weeks	18	18	18				11		1	6[5]			18			
Maier, Meili	38	38	24			14[6]	27	7	4[7]				10	2	5	21
Meyer, Jarman	25	18	25				21		4							25
Poth, Fromm	37	37	37				33	3	1				33	3	1	
Plummer, Burke, Williams	41	41	41				36		5				38		3	
McDonough, O'Neil	104	100	104				63	10	31			11	4		11	89
Broders	60	60	58		1	1	35	19	6				10	1	49[8]	
Legerton, Texter, Ruffin	11		11				11									11
Holoubek, Holoubek, Langford	76	69	76				35	27	10		4	10	26		10	36
Ogborn	42		39	2		1	42[9]									42
Shaiken	48	48	48				33	10	3		2		33	10	3	
Johnston	145	145	145				143		2			2	143		2	
Rossett, Knox, Stephenson	146		141			5	146					4[10]	53			93
TOTALS	1443	968	1380	17	8	38	1142	132	131	12	26	54	552	52	179	634
PERCENTAGES		67.8	95.6	1.2	0.6	2.6	81.3	9.4	9.3			3.7	70.5	6.6	22.9	

1. Not included in tabulations.
2. Included in "Relief of Symptoms" as "Poor" and in "Evidence of Healing" as "None."
3. Four had no symptoms when Banthine therapy was begun.
4. Of which seven were penetrative lesions and five partially obstructive.
5. No symptoms were present in four.
6. Two with symptoms only; no demonstrable ulcer.
7. Three were psychopathic patients and one had a ventricular ulcer of the lesser curvature.
8. Roentgen findings after treatment period of two weeks; forty-seven had duodenal deformity.
9. All returned to work within a week.
10. In these four, after relief of symptoms, Banthine was discontinued because of urinary retention.

During the past two years, more than 200 references to Banthine therapy in peptic ulcer and other parasympathotonic conditions have appeared in medical literature. Of these reports, 22 have presented specific facts and figures on the results of treatment in a total of 1,443 peptic ulcer patients, 67.8 per cent of whom were reported as chronic or resistant to other therapy. These results are tabulated above and show:

"Good" relief of symptoms was obtained in 81.3 per cent of the 1,405 patients on whom reports were available.

"Complete" evidence of healing was obtained in 70.5 per cent of the 883 patients on whom reports were available.

In all but 9.7 per cent, relief of pain was "good" or "fair." In all but 22.9 per cent, evidence of healing was "complete" or "moderate."

During treatment, 26 patients required surgery or developed complications other than ulcer which required discontinuance of the drug before results could be evaluated.

Of the remaining 1,417 patients, only 3.7 per cent experienced side effects sufficiently annoying to require discontinuance of the drug.

*Volume containing complete references, with abstracts of 39 additional reports, will be furnished on request by

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bers of any one group may, in small degree, possess functions of the other groups. There is also some apparent correlation between function and chemical structure within groups. One group of adrenal cortex hormones is concerned with the function of masculinization, particularly with hair and muscle growth. A second group is concerned with electrolyte and water balance. A third group is the one in which we are most interested, namely the hormone group concerned with protein and carbohydrate metabolism. Compounds representative of this group are Kendall's Compound E (17-hydro 11-dehydrocorticosterone) and Compound F (17 hydroxycorticosterone). Compound E has been synthesized and is now known as cortisone.

Work With Specific Hormones

In 1941 Ingle[5] reported that he had been able to produce prolonged hyperglycemia and glycosuria in rats by the use of 17-hydroxy 11-dehydrocorticosterone. He had observed negative nitrogen balance during the course of administration of the hormone followed by nitrogen retention after the hormone was stopped. He was not able to account for all the glucose excreted on the basis of increased carbohydrate formation from protein and suggested that the hormone probably inhibited the utilization of carbohydrate or altered the interconversion of the foodstuffs in addition to its effect in stimulating the catabolism of protein.

In 1948 Bergner and Deane[7] found that in rats treated with adrenocorticotropin, deposition of glycogen in the liver exceeded 1000 mg. per cent in 24 hours. Chemical determination within six hours showed that the adrenals lost considerable steroid. By 18 hours the adrenal glands were significantly enlarged and in 24 hours deposition of glycogen in the liver exceeded 1000 mg. per cent.

Perfusion Experiments

Corey and Britton[14] observed definite increases in glycogen content of glucose perfused cat liver by the use of cortico-adrenal extract. Definite decreases were observed by the use of insulin and DOCA. Addition of potassium acetate to perfusion fluids prevented the glycogenetic action of cortico-adrenal extract.

Clinical Experiences With ACTH and Cortisone

In the course of clinical trials of both ACTH and cortisone, different investigators have noted alterations in carbohydrate metabolism which correlate to some degree with previous laboratory reports.

Taylor et al[9] treated a group of cancer patients with ACTH and cortisone. They found a change from a normal glucose tolerance curve to a diabetic curve in 11 of 14 patients. In one patient who had previously had a normal glucose tolerance test, glycosuria and hyperglycemia persisted for six weeks after cessation of therapy. One patient manifested hypoglycemia after receiving ACTH.

Mason et al[10] administered ACTH to a normal white 32-year-old woman. They did not observe any decreased carbohydrate tolerance as measured by the glucose tolerance test but the results of the insulin tolerance test suggested an increased resistance to insulin. Here is evidence that the adrenal carbohydrate hormones may have some antagonistic action toward insulin at least insofar as the blood glucose level is concerned.

Forsham et al[11] administered Compound F to a patient with Addison's disease who did not respond to ACTH. Under conditions of controlled starvation, there was a gradual fall in blood sugar level throughout a 13-hour period. A similar fall in blood sugar level was observed in another trial with ACTH treatment. With Compound F not only was the progressive fall in blood pressure prevented, but the level of blood sugar at the termination of the fast exceeded the pre-injection level. They did not undertake to explain the source of the additional carbohydrate.

Conn et al[17] administered ACTH to three normal subjects. They observed glycosuria, hyperglycemia and increased uric acid excretion closely paralleling the administration of ACTH. Two subjects developed negative nitrogen balance which persisted five to six days following cessation of ACTH. All subjects developed some loss of carbohydrate tolerance which persisted up to two weeks following cessation of treatment. These observers pointed out that the amount of extra carbohydrate which accumulated in body fluids and which was excreted in the urine was far in excess of that which could be accounted for on the basis of increased conversion of body protein to carbohydrate. They therefore supported the view that the reduced carbohydrate tolerance was due to some type of over all decrease in the capacity of the subject to dispose of glucose normally by oxidation or conversion to fat.

Thorn et al[13] reviewed the relation of pituitary-adrenal function to rheumatic disease. They commented not only on the increases in blood glucose levels and liver glycogen stores from the action of adrenal cortex hormone but also on the increased mobilization of depot fat and its enhanced utilization, thus sparing carbohydrate. They further stated that the increased conversion of protein to carbohydrate was brought about, not by an increased catabolism of body protein, but rather by diverting amino acid radicals to pyruvic acid and glucose (anti-anabolic effect).

In 1950 Hench, Kendall, Slocumb and Polley[12] made an extensive report on their results with ACTH and cortisone. They pointed out that in

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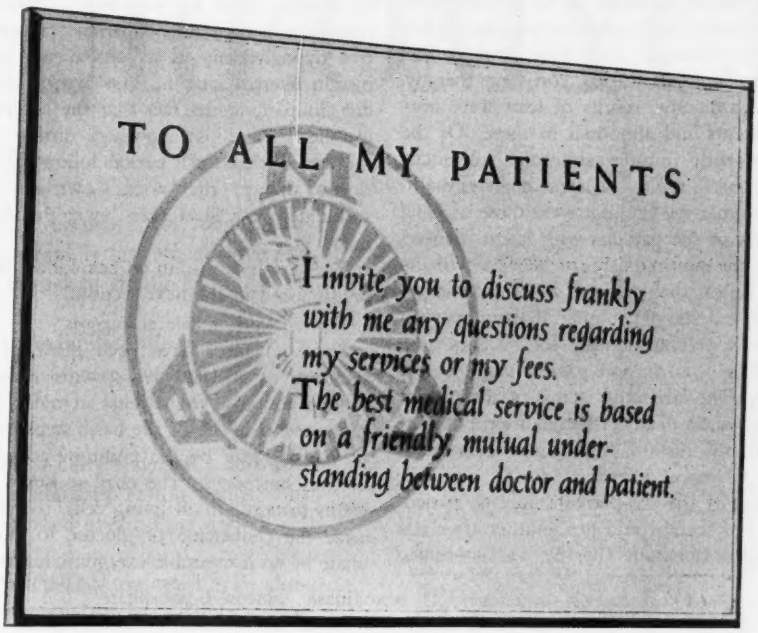
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rheumatoid arthritis patients without latent or frank diabetes, cortisone and ACTH might not reduce carbohydrate tolerance significantly but that in patients with latent or frank diabetes, these hormones will probably produce a more marked reduction of carbohydrate tolerance.

Sprague et al[19] observed abnormal glucose curves in four of 12 patients receiving cortisone. In two of these cases there was a family history of diabetes.

Boland and Headley[20] studied effects of smaller maintenance doses of cortisone in 42 patients with rheumatoid arthritis. In 24 of these patients standard carbohydrate tolerance tests were done before, and at varying intervals during cortisone therapy. Before cortisone therapy, results of tests were normal in 21 patients and abnormal in three. Of the three patients with initially abnormal tolerances, two exhibited curves typical of latent diabetes mellitus, and in the other the findings were those of renal glycosuria. One of the patients with latent diabetes received cortisone continuously for 98 days with no evidence of clinical diabetes and no change in repeated tolerance tests. The other diabetic patient was given cortisone continuously for 79 days with some irregular glycosuria and some change in the tolerance tests. The laboratory status of the patient with renal glycosuria did not change after 174 days of hormone administration. Significant decreases in carbohydrate tolerance developed during cortisone therapy in two of the 21 patients, in one patient after 133 days of therapy and in the other after 104 days of therapy. Cortisone therapy was continued in both patients with no glycosuria or other clinical evidence of diabetes.

Bolinger and Delp[21] studied the effects of ACTH on liver function in 32 patients. They divided their patients into two groups depending upon presence or absence of liver dysfunction prior to treatment. Their first group consisted of 21 patients undergoing treatment with ACTH for various conditions but showing no evidence clinically or bio-chemically of liver dysfunction. The second group consisted of 11 patients showing some evidence of liver dysfunction. Fourteen patients of Group I and seven patients of Group II had glucose tolerance tests before treatment and again during or immediately after treatment. There was reduced carbohydrate tolerance in both groups but the Group II patients showed a more definite trend toward exaggeration of the diabetic state.

The Role of Insulin

Thorn et al[13] stated that insulin antagonizes the tendency of ACTH and cortisone to reduce the utilization of carbohydrate and to stimulate gluconeogenesis. The hyperglycemia following administration of either ACTH or cortisone results in an increased demand for insulin, which is adequately met by increased insulin production in most patients. In rare cases, however, diabetes develops in those patients unable to meet the excessive demand for insulin. After the withdrawal of ACTH or cortisone the patient may experience a period of relative hypoglycemia as a consequence of persistent insulin overproduction. The hypoglycemia may be due, in part, to the fact that the anterior pituitary of the patient is depressed during substitution therapy so that for a period following discontinuation of therapy, the patient's own adrenal cortex is stimulated at a level even lower than before treatment.

The action of insulin on hexokinase inhibitor will be discussed in the next section.

Role of Enzymes

Some advances have been made in our understanding of the enzyme systems involved in the cellular action of the adrenal steroids.[20] It has been suggested that one of the basic steps in metabolism of glucose may be the point of action of adrenal cortical hormones. The enzyme hexokinase, which seems to occur in all living cells, is thought to catalyze the conversion of glucose to glucose-6-phosphate by an irreversible exergonic reaction:

$$\text{(1)}\quad \text{glucose} + \text{adenosine triphosphate} \xrightarrow{\text{hexokinase}} \text{glucose-6-phosphate} + \text{adenosine diphosphate}$$

An important consequence of this reaction is that it converts the freely diffusing glucose into a phosphate which crosses membranes with difficulty and is thereby pictured as serving to capture glucose molecules in the intracellular compartment.

The conversion of glucose-6-phosphate back to glucose, however, is entirely another matter. The enzyme required for this reaction is thought to be a specific glucose-6-phosphatase which appears to be abundantly present in liver but lacking in striate muscle:

$$\text{(2)}\quad \text{glucose-6-phosphate} \xrightarrow{\text{phosphatase}} \text{glucose} + \text{phosphate ion}$$

Glucose-6-phosphate may also be converted to glucose-1-phosphate and then to glycogen or it may be converted to fructose-6-phosphate by a reversible type of reaction. So we see that glucose-6-phosphate is a sort of key compound in the metabolism of glucose.

As mentioned previously, the anterior pituitary gland produces a specific inhibitor of the enzyme

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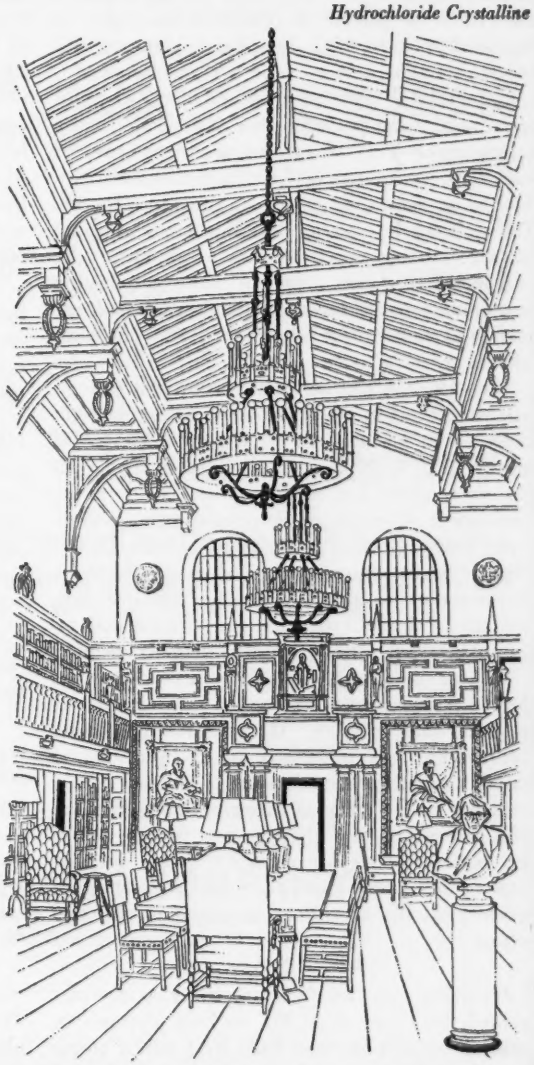

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hexokinase (reaction 1). It appears to operate predominantly on the hexokinase of muscle and liver cells, and has little or no effect on the hexokinase contained in the cells of the central nervous system, the renal tubule or the intestinal mucosa.

One of the actions of the secretion of the adrenal cortex appears to be an enhancement and prolongation of the action of this pituitary hexokinase inhibitor.

An important action of insulin lies in its antagonism to the action of the inhibitor of hexokinase.[22] Whereas insulin has no effect on hexokinase itself, it does serve to release this enzyme from the inhibition imposed on it by the anterior pituitary and the adrenal cortex. Thus we see that the key reaction, conversion of glucose to glucose-6-phosphate, is regulated by an intricate interplay of hormonal and enzyme substances.

Conn et al[17] reported a fall in blood levels of glutathione (and perhaps other sulfhydryl bearing substances). They suggested that the reduced amount of glutathione may diminish enzymatic production or reduce the release of pancreatic insulin. The diabetes of Cushing's syndrome has been described as being associated with a low blood glutathione level. Conn suggested that the reduction in glutathione also might explain the increased uric acid production which is associated with increased adrenal cortex activity.

What then, should we expect from an increase of adrenal cortex hormones? On the surface, one might expect it to produce the same picture as that of insulin lack. With insulin lack, phosphorylation of glucose proceeds less rapidly, glucose tends to accumulate in the extra-cellular compartment, glucose-6-phosphate is formed in less quantity in muscle and liver cells and products derived from glucose-6-phosphate are secondarily formed at less than normal rates. This picture is, in fact, a good description of the biochemical defect in diabetes mellitus.

Increase of adrenal cortex hormones, however, duplicates the picture of insulin lack or diabetes mellitus only in part. In unregulated diabetes mellitus, the liver is depleted of glycogen. In the reduced carbohydrate tolerance of adrenal cortex hormone excess, there is increased liver glycogen. This increase in liver glycogen was pointed out by the earlier workers using adrenal cortex preparations on laboratory animals and has lately been observed clinically as will be described in the next section.

Role of the Liver

Bollinger and Delp,[21] in their series of cases, studied the effect of ACTH on liver glycogen by staining sections obtained from liver punch biopsy both with Gomori's silver stain for glycogen and with routine H and E. In two patients with extensive liver damage, sections taken after treatment with ACTH and stained with Gomori's glycogen stain showed a marked increase in liver cell glycogen over sections obtained before treatment. Comparison of H and E stained sections taken after treatment with those obtained before treatment showed increase in size of liver cells and the appearance of reticulated, foamy appearing cytoplasm. The increase in glycogen was accompanied by a definite decrease in fat vacuoles from the cells. This decrease in fat vacuoles could have been brought about by decreased delivery of fat to the liver or by increased utilization of fat from the liver by the tissues. It was their opinion that the increase in size and the changes in the appearance of the cytoplasm could all be accounted for by the marked increase in content of liver glycogen. As previously mentioned, they pointed out that the diabetogenic effect of ACTH is probably augmented in the patient with liver disease. Their data supported the idea that the liver forms a significant link in the chain of reaction resulting from adrenal cortical stimulation in the human. There have been no reports of clinical studies on the effects of increased adrenal cortex hormone on muscle glycogen in the human.

Thus we see that the actions of the adrenal cortex hormones as they affect carbohydrate metabolism are intricately meshed with liver cell activity, certain enzyme actions, the action of insulin, protein metabolism, fat metabolism and possibly with the actual production of insulin and certain enzymes. It is probably true that, in health, the adrenal cortex hormones are not secreted entirely for the purpose of balancing the actions of other hormones but that the adrenal cortex hormones have certain primary actions which require their presence in absolute optimum quantities.

Summary and Conclusions

1. The anterior pituitary produces adrenocorticotropin (ACTH) which specifically stimulates secretion of adrenal cortex hormones.

2. Compound E (cortisone) and Compound F are two hormones of the adrenal cortex which have been found to have definite effects on carbohydrate metabolism.

3. Increase in adrenal cortex hormones produces increase in blood sugar values, increase in liver glycogen, increased gluconeogenesis, decreased utilization of carbohydrate, and increased utilization of fat.

4. The conversion of glucose to glucose-6-phosphate is a key reaction in the metabolism of glucose. The reaction is thought to be brought about by an ubiquitous enzyme, hexokinase, which acts in only one direction, that is, in conversion of glucose to glucose-6-phosphate. Conversion of glucose-6-phos-

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phate to glucose, however, is catalyzed by a specific phosphatase, thought to be abundant in liver but lacking in striate muscle.

5. The anterior pituitary secretes an inhibitor to hexokinase. The action of this hexokinase inhibitor is enhanced and prolonged by adrenal cortex hormones and antagonized by insulin.

6. Hyperglycemia resulting from ACTH or cortisone treatment stimulates secretion of insulin. In patients unable to meet the demand for increased insulin, clinical symptoms of diabetes may develop.

7. The diabetes resulting from excess adrenal cortical hormones is accompanied by increased liver glycogen in sharp contrast to diabetes mellitus in which there is depletion of liver glycogen.

8. There is some evidence that the diabetogenic action of adrenal cortex hormones may be augmented in patients with liver disease, thus supporting the contention that the actions of the adrenal cortex hormones may be closely linked with liver function.

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THE KANSAS PRESS LOOKS AT MEDICINE

Editor's Note. In this section the Journal reproduces editorials relating to medicine which have appeared in the lay press. An effort is made to include both favorable and unfavorable comments, and the Editorial Board in no instance assumes responsibility for the opinions expressed.

Setback in Socialism

Years ago, the Oregon State Medical Society set up a prepaid hospitalization program, which Oregon people could join at a modest monthly cost if they wished to. In 1949, the government brought an anti-trust suit against the plan's sponsors, in which the main claim was that participating doctors conspired to eliminate prepaid medical care plans not sponsored by themselves.

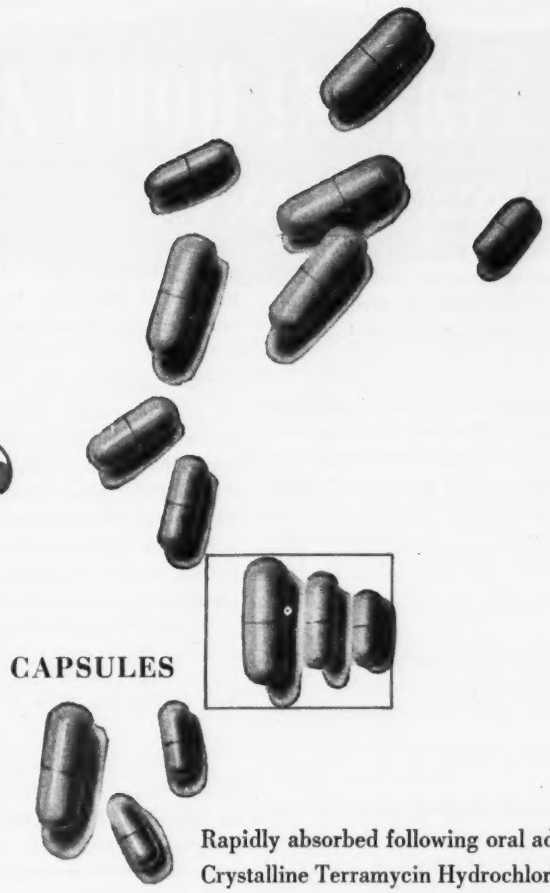
After a five-months trial, resulting in an 8,000 page court record, a federal judge threw out the suit in toto. He held that the Oregon doctors had established their plan to "save their profession from socialism," and that no court should require organized medicine to "remain a sitting duck while socialism overwhelms it."

This didn't satisfy the government, however. At a heavy cost to both the taxpayers and the defendants, the case was taken to higher courts. It finally ended last April, when the United States Supreme Court, with but a single dissent, upheld the trial court and tossed out the monopoly charges.

Of this, the president of the Oregon State Medical Society said: "In my opinion this decision is a sharp setback for the administration forces in their campaign to regiment the American people and the American medical profession under a Federal compulsory health insurance system." And the Portland Oregonian said editorially: "The United States Supreme Court upheld an enlightened effort on the part of medical men to meet a social need. . . The decision is a victory for a profession that has tried successfully to solve a pressing problem by its own initiative."

So socialized medicine has taken one more setback—and the cause of free, voluntary action by a free people has taken a step forward.—*El Dorado Times, May 20, 1952.*

Terramycin



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ANNOUNCEMENTS

A five-day postgraduate course in "Diagnosis in Internal Medicine with Emphasis on Physical Diagnosis" will be given at the University of Colorado School of Medicine, Denver, July 21-25, under the direction of Dr. James J. Waring. The 40 hours of work can be applied toward fulfilling postgraduate study requirements of the American Academy of General Practice. Complete information may be secured from the Office of Graduate and Postgraduate Education, University of Colorado Medical Center, 4200 East Ninth Avenue, Denver 20, Colorado.

* * *

The 30th annual scientific and clinical session of the American Congress of Physical Medicine will be held at the Roosevelt Hotel, New York City, August 25-29. All sessions will be open to members of the profession in good standing with the A.M.A. Full information may be obtained from the Congress, 30 North Michigan Avenue, Chicago 2, Illinois.

* * *

The 38th annual clinical congress of the American College of Surgeons will be held in New York City, September 22-26, with headquarters at the Waldorf-Astoria.

* * *

The National Gastroenterological Association announces that its fourth annual course in postgraduate gastroenterology will be given at the Hotel Statler, New York City, October 23-25. A distinguished faculty will present the program, and one complete session will be devoted to a clinical pathological conference at the Mt. Sinai Hospital. Correspondence may be addressed to the association, Department GSJ, 1819 Broadway, New York 23, New York.

* * *

Delegates from 12 nations, meeting in Rio de Janeiro last October, founded a new world medical society known as the International Fertility Association. Their first congress on fertility and sterility will be held in New York City in May, 1953, in conjunction with the meeting of the American Society for the Study of Sterility.

Aims of the new organization are to study the problems of fertility and sterility in their broad implications, to stimulate scientific investigation and social awareness in the specialty, to standardize and orient nomenclature, terminology, tests and evaluation of diagnostic methods and therapy throughout the world, and to hold international congresses in different parts of the world.

Dr. Abner I. Weisman, 1160 Fifth Avenue, New York City, can supply information on the organization.

* * *

The National Gastroenterological Association is offering a cash award of $100 and a certificate of merit for the best unpublished contribution on gastroenterology or allied subjects. Contestants, who must be members of the A.M.A., are to submit essays no longer than 5,000 words to the association, 1819 Broadway, New York 23, New York not later than September 1, 1952.

* * *

The Foundation of the American Society of Plastic and Reconstructive Surgery offers awards in junior and senior classifications for original contributions in this field. The awards in the junior classification, plastic surgeons in the specialty not longer than five years, will be two six-months scholarships in leading plastic surgery services in the United States, England and Italy. In the senior classification the award will be a silver plaque.

Entries must be received not later than September 1, 1952. Inquiries are to be addressed to the Award Committee, care of Jacques W. Maliniac, M.D., 11 East 69th Street, New York 21, New York.

* * *

The 14th annual mid-summer conference of the Rocky Mountain Radiological Society will be held in Denver, Colorado, at the Shirley Savoy Hotel on August 7, 8 and 9. In addition to the formal program presented by outstanding guest speakers, there will be a symposium on diseases of animals transmissible to man, studied from veterinary, pathological and clinical viewpoints. Round table luncheon discussions will be held. One evening meeting will include a joint session with the Denver Medical Society, another will present an informal banquet, and the meeting will be concluded with a picnic.

Among speakers at the conference is Dr. H. H. Dunham, Kansas City, who will discuss "Lymphosarcoma—A Review of 100 Cases."

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*IODINE	0.7 mg.	PANTOTHENIC ACID	3.0 mg.
*IRON	12 mg.	PYRIDOXINE	0.6 mg.
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ZINC	2.6 mg.		

*PROTEIN (biologically complete)	32 Gm.
*CARBOHYDRATE	65 Gm.
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*Nutrients for which daily dietary allowances are recommended by the National Research Council.

BOOK REVIEWS

Current Therapy—1952. Edited by Howard F. Conn. Published by W. B. Saunders Company, Philadelphia. 849 pages. Price $11.

The book is a compendium of current therapeutic methods and is divided into sections according to a convenient subdivision of diseases. The sections are: Infectious Diseases, Diseases of the Respiratory System, Diseases of the Cardiovascular System, Diseases of the Blood and Spleen, Diseases of the Digestive System, Disorders of Metabolism and Nutrition, Diseases of the Endocrine System, Diseases of the Urogenital Tract, Venereal Diseases, Allergic Diseases, Diseases of the Skin, Diseases of the Nervous System, Diseases of the Locomotor System, Obstetric and Gynecologic Conditions, Diseases due to Physical and Chemical Agents, and Appendices and Index.

Each of the sections is subdivided into individual disease conditions with excellent cross indexing so that they may be easily found. The sections are written by different authors with the treatment of each disease described by a recognized authority. In most cases the presentation assumes that the diagnosis has already been made, and the treatment then is outlined in a concise manner without extensive reference to theory and in such a way that the techniques of the treatment are readily available. In some instances where disagreement among the authorities exists, presentation by each of the different authors is included.

This book should form a valuable desk reference to the general practitioner, the internist and the general surgeon, and in many cases should be of use to the specialist. Because of its large volume, however, there are no bibliographic references attached, and it would seem that the value of the book might be increased by including one or two recent pertinent bibliographic references to most of the conditions.—*R.E.B.*

* * *

Rheumatic Diseases. American Rheumatism Association. Published by W. B. Saunders Company, Philadelphia. 449 pages, 126 figures, 63 tables. Price $12.

This volume, one of the Postgraduate Series in Medicine and Surgery, represents a compilation of the reports given at the Seventh International Congress on Rheumatic Diseases on May 31, 1949. In such compilation the Editorial Committee accomplished the very difficult task of omitting certain papers which duplicated others in general context, abstracting some, publishing many in full length, providing adequate space for the comments of discussants which many times are of importance equal to the paper itself, and of arranging the material in sections for ready reference and study. The 195 contributors represent a distinguished group of physicians, surgeons and laboratory investigators as well as those prominent in the basic science fields.

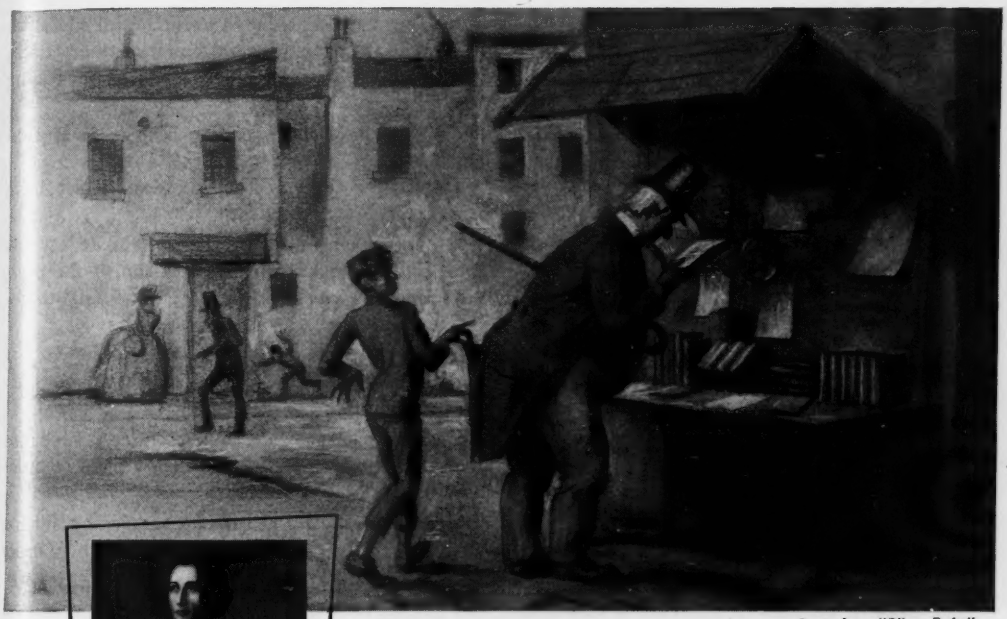
The arrangement of the book into the following sections permits ready reference to any portion of its contents: general information about rheumatic diseases; rheumatic fever; rheumatoid arthritis and related syndromes; fibrositis, psychogenic rheumatism and osteoarthritis; less common types of rheumatic diseases; the various treatment approaches; and finally, an exhaustive section on laboratory and investigative studies in the rheumatic diseases.

The quality of the work presented is indeed textbook in character. The physician who is interested in the many aspects of the rheumatic diseases will find this volume an excellent text as well as a reference source. Fibrositis and psychogenic rheumatism which have received relatively scant attention in the American literature are presented with clarity and completeness. By no means is the bulk of the contributions on treatment limited to the medical management of these conditions; surgical, orthopedic, psychiatric and physical medicine management are all adequately represented. In fact, the section dealing with the widely publicized steroid treatment is the one disappointing feature of an otherwise excellent book. At the time the Congress was held, barely eight months had elapsed since ACTH and cortisone had first been administered clinically. Now at the time of publication, nearly three years later, during which time a tremendous volume of experience has developed in the use of these compounds, the reports are couched in the tenor of the times when a series of a few cases was all that anyone had. Although the Editorial Committee excused this on the grounds that it served as a milepost of progress along a difficult road, in a postgraduate sense it serves a purpose of limited usefulness; the honors heaped upon Hench and his associates are reminders, if such be needed, that this milepost of progress did not pass unnoticed.

With this minor criticism, the reviewer believes that the volume is of definite and lasting value to clinicians and investigators alike. The busy clinician particularly will enjoy the shortness and conciseness of the individual contributions. The medical student interested in rheumatology will find a tremendous source of references pertaining to all aspects of this field. The psychiatrist, orthopedist and physiatrist will utilize this volume repeatedly as a reference source of information.—*D.L.R.*

* * *

Callander's Surgical Anatomy. Third Edition. By Barry J. Anson and Walter G. Maddock. Publishe



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Charles Dickens, the renowned British novelist, was subject to cyclic moods of pronounced depression characterized by intense nervous irritability and by the shedding of tears all day long. He was exceedingly sensitive to his own experiences as well as to the suffering of others.

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This is a revised edition of surgical anatomy which retains the original pattern of presentation. Fundamental features of anatomy are stressed, not technical operative procedures. Additions from the current surgical literature have been added and correlated with pertinent basic anatomy. The section pertaining to the gall bladder and lung are extremely well presented. The excellent illustrations and format lend themselves to ease of understanding. This standard text well fits the need of specialists, students, or practitioners.—*C.A.H.*

* * *

Elementary Medical Statistics. By Donald Mainland. Published by W. B. Saunders Company, Philadelphia. 327 pages, 23 figures. Price $5.00.

The author aims his context at the medical student primarily, but his presentation is equally worthwhile for the investigator or the practicing physician who will read the reports of investigators.

The place of statistics in medicine is well established in the opening chapter. How to look at evidence is beautifully presented in the second chapter; the nine questions that the physician reading medical literature must apply and five rules for investigation are discussed.

This text does not suggest that all medical observations be statistically significant, but insists that observations which are not significant be presented in such terms that a significance is not implied.

Precise methods of determining confidence limits and of properly evaluating observations are clearly presented with numerous examples. The book is one which must be read and then kept available for reference.—*A.D.M.*

Evaluation of Prepayment Plans

An evaluation of Blue Cross and Blue Shield plans was presented recently by Dr. Anthony J. J. Rourke, president of the American Hospital Association, in an address given before representatives of the two plans at their annual conference. Dr. Rourke's outline listed the following problems as solved or greatly helped by the prepayment plans:

1. They have furnished the much needed and most effective public relations tool in history.
2. They have greatly enhanced the financial stability of our hospitals.
3. They have directly or indirectly focused our attention on cost because of improved accounting methods.
4. They have made it possible to vastly improve the remuneration and personnel policies for hospital workers.
5. They have contributed to the health education of 80,000,000 people by concentrating their attention on hospital cost—not during illness, but during health.
6. They have made earlier hospital admission possible.

Dr. Rourke also listed the problems which have been created or have grown:

1. They have caused a serious decrease in hospital patients on teaching services and, if the present trend continues, may cause the disappearance of the traditional teaching service.
2. They have in some ways—and inadvertently—been the cause of abuse of hospitalization and diagnostic facilities.
3. They have shown us the urgent need for rapid diagnostic service for private patients on an ambulatory basis.
4. They have changed the architectural planning of our hospital structure because of the shift to more private rooms and fewer wards.
5. They have created some tensions between hospitals and medical staffs, but in turn have shown a pattern of cooperative work between doctors, hospitals and plans which had no precedent.
6. They have created the problems bound to occur with third party payments as to methods and amounts.
7. They have allowed us to define and separate the costs of caring for the medically indigent and have indirectly made it obvious to us that local governments must assume their just responsibility for financing such care.

From the standpoint of control, the most important characteristic of tuberculosis is the fact that it is communicable. In other communicable diseases like diphtheria, for example, for which we have dependable methods of immunization and effective therapeutic agents, the problem is entirely different and much more susceptible to control efforts. In tuberculosis, however, this is not the case, and the only sure way we have of checking its spread from one person to another is by finding and isolating the disease until it is no longer a danger to others. *Robert J. Anderson, M.D., Medical Papers of the Annual Meeting of the Canadian Tuberculosis Association, May, 1951.*

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ABSTRACTS FROM CURRENT LITERATURE

Cow's Milk Allergy in Infants

Cow's Milk Allergy in Infants. By N. W. Clinic, Ann. All., 9, 195-203, Mar., 1951.

The authors report a clinical study of the symptoms of cow's milk allergy in 140 infants. Fourteen different symptom complexes were observed: eczema (more often the face), 59 cases (42 per cent); pylorospasm (persistent vomiters, spitters or "sour" babies), 54 cases (39 per cent); colic (severe excess gas not relieved by usual measures, 40 cases (29 per cent); very unhappy all the time (usually had several of the above syymptoms), 27 cases (20 per cent); diarrhea (severe and persistent), 33 cases, (24 per cent); large amount of mucus in the stools, eight cases; gross blood in the stools, six cases; croup and cough (repeated and frightening), 13 cases (nine per cent); choking and gagging and excessive mucus in the throat, 10 cases (seven per cent); "nose cold all the time" (stuffy, runny nose, hay fever), 12 cases (eight per cent); constipation, chronic and not relieved by usual measures, seven cases (five per cent); refuses milk entirely (anorexia); sneezing, frequent spells, 3 to 10 times, three cases; urticaria or angioedema, three cases; "toxemia" (apathetic, listless, cyanosis and collapse in varying degree), three cases.

These above symptoms stopped with changing to Mulsoy and recurred when put back on cow's milk.

These allergic manifestations usually began at two to four weeks.

In most instances marked improvement occurred when milk was withheld for only 48 hours. Approximately one out of 15 infants is allergic to cow's milk in some degree. Most of these babies outgrow their milk allergy by the third or fourth month.

Fifteen per cent of these infants were not able to tolerate cow's milk even by the end of the first year, without having some clinical symptoms.

Proper diagnosis and treatment of these initial allergic manifestations, as early as possible, may minimize or avoid serious allergic disease in later life.—*D.R.D.*

* * *

Carcinoma of the Colon

Carcinoma of the Colon. By Warren H. Cole, Postgrad. Med., 10:1, 35-41, July, 1951.

The author reviewed diagnostic criteria and then presented three illustrative cases with films. He emphasized the following facts:

1. Symptoms of this disease are insidious.

2. The lesion is less invasive than many tumors and the five year survival rate following resection is between 50 and 55 per cent.

3. The postoperative mortality rate at present is in the neighborhood of three or four per cent.

4. The earliest symptom is change in bowel habits, increasing constipation often changing to diarrhea and occasionally shifting back and forth.

5. Rectal bleeding is another common symptom and may be the first symptom.

6. Abdominal pain, often cramplike, is the third important manifestation.

7. Obstruction is more common in lesions on the left side.

8. Vomiting is characteristic by its absence though it is common to have vomiting every couple of days in complete obstruction.

9. Abdominal examination usually helps only a little; right sided lesions may present a mass; increased peristaltic sounds on auscultation form a more important sign than distention or visible peristalsis.

10. Proctoscopy is valuable.

11. X-ray studies may need to be made in oblique or lateral aspects; barium should not be forced in or given by mouth.

12. About half of the lesions in the colon and rectum are located distal to the rectosigmoid junction; of the other half, 18 per cent are in the descending, six per cent in the transverse and 12 per cent in the ascending colon.

13. Diverticulitis may produce a differential diagnostic problem, but on x-ray study such lesions usually involve a longer segment and diverticuli can be seen.—*P.W.M.*

* * *

Radiation Therapy in Pediatrics

The Role of Radiation Therapy in Pediatrics. By Paul H. Reitman, Arch. Ped., 68:6, 265-273, June, 1951.

The author believes many physicians fail to realize the scope of radiation therapy in pediatrics. He reviews a 12-months period of x-ray therapy at the Michael Reese hospital; 1728 patients were reviewed and of these 436 were under 15 years.

The diseases treated by irradiation fell into four main categories: traumatic or mechanical, inflammatory or infectious, metabolic or endocrine, and neoplastic, benign or malignant.

The traumatic or mechanical cases included strains, sprains, fractures, fibrositis, myositis, bursitis, arthritis, etc. The principal symptom was pain in which radiation therapy was of value. This group did not frequently need radiation therapy. One young boy with myositis calcificans received much relief from pain and showed a decrease in calcium deposits. Radiation therapy relieves pain through

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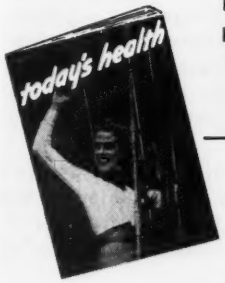

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Basic Principles in General Surgery, Two Weeks, starting September 8.
General Surgery, One Week, starting October 6.
General Surgery, Two Weeks, starting October 6.
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vasodilation, with increased rate in removal of toxic products; also, some polymorphonuclear leukocytes sensitive to irradiation are destroyed, releasing proteolytic enzymes which dissolve dead tissue, thus more rapidly clearing debris from the lymph and blood vessels.

Secondly, diseases of infectious or inflammatory origin include cellulitis, furunculosis, sinusitis, otitis media, thrombophlebitis, pneumonitis, neuritis, gas gangrene, vernal catarrh, and many others. Radiation should not be used until it is evident other standard methods of treatment are inadequate. The author has been able to clear up unresolved pneumonitis, chronic otitis media, tuberculous adenitis and even tuberculous peritonitis with very small amounts of radiation. Good results were obtained in chronic pharyngitis, upper respiratory infections, eustachian tube deafness. Many patients were referred for irradiation of tonsils and adnoids, patients considered too young for surgery who had allergies or rheumatic heart disease. Others with recurrence of lymphoid tissue after surgery were successfully treated. Irradiation of the enlarged thymus was done only when compression of the trachea was demonstrated on roentgenograms. This treatment was very infrequently indicated. The dermatitis found in childhood is usually an inflammatory response to fungus, irritation or allergy, and such inflammations are aided by irradiation when indicated. Some of these are acne vulgaris, eczema, lupus vulgaris, dermophytosis, tinea capitis, etc.

The third group comprises diseases of metabolism, including the endocrine and other secretory glands. These included functional diseases of the thyroid, parathyroid, pituitary, ovary, adrenals, sweat glands, etc. Radiation causes decreased gland activity and secretion. The authors treated the lytic skull areas in a case of Hand-Schuller-Christian disease with complete reossification and relief of pain.

The fourth group is diseases of neoplastic origin, benign and malignant. Of the benign neoplastic lesions, vascular nevi were most commonly treated. Cavernous hemangioma responded best; port wine nevi gave poor response. Other benign tumors included warts. Best results in keloid were obtained by surgically removing the scar with postoperative irradiation.

In the treatment of malignancies, irradiation was the treatment of choice in blood dyscrasias and lymphoblastomas. It was used preoperatively in Wilms or neuroblastomas, also postoperatively at times.

It should be remembered that radiation therapy has a firm scientific foundation and, as in other forms of therapy, it has its indications and contraindications. It must be administered in such a manner by qualified specialists to achieve maximum improvement without effecting changes, local or general detrimental to the patient.—*D.R.D.*

* * *

Blood Pressure in Infants

Flush Method for Blood Pressure Determination in Infants (Newborn). By Goldring and Wohlmann, Jnl. Ped., 40:3, 285-289, Mar., 1952.

A visual method of determination of blood pressures in newborn infants is presented. A 2.5 cm. cuff is placed around the ankle or wrist in the usual manner and a piece of rubber sheeting or old rubber glove is wrapped snugly around the foot or hand, so that the blood is pressed from the extremity. The cuff is then inflated to a pressure slightly above the suspected systolic pressure, the rubber bandage is removed and the pressure slowly released from the cuff. The approximate pressure is the reading at which blood suddenly re-enters the foot or hand, causing a flush.

The authors believe that a difference greater than 20 mm. Hg. between the upper and lower extremities may be enough to warrant a diagnosis of coarctation in a suspected case. Higher reading is found in the arms.—*D.R.D.*

Five Hundred Specialists in Army

Five hundred officers now on active duty with the Army Medical Service have been certified as professional specialists, the Army Surgeon General announced recently. This number includes 466 physicians qualified in 19 medical specialties, 23 board-certified dentists, seven specialists in psychology and four in nutrition.

The increase is attributed to the Army's graduate professional training program and to the recall of reserve officers to active duty since the outbreak of the Korean conflict. Of the total number of medical specialists, 311 are in the regular Army and 148 are reserve or National Guard physicians on extended active duty. Seven are retired regular Army officers remaining on active duty.

Unlike the situation during World War II, many of the recently certified officers have obtained all their professional training and practice in the Army.

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Kansas Oxygen, Inc. 321
Lattimore-Fink Laboratories 324
Lederle Laboratories 309
Lilly, Eli and Company .....Facing XVIII
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Mead Johnson and Company .....Back Cover
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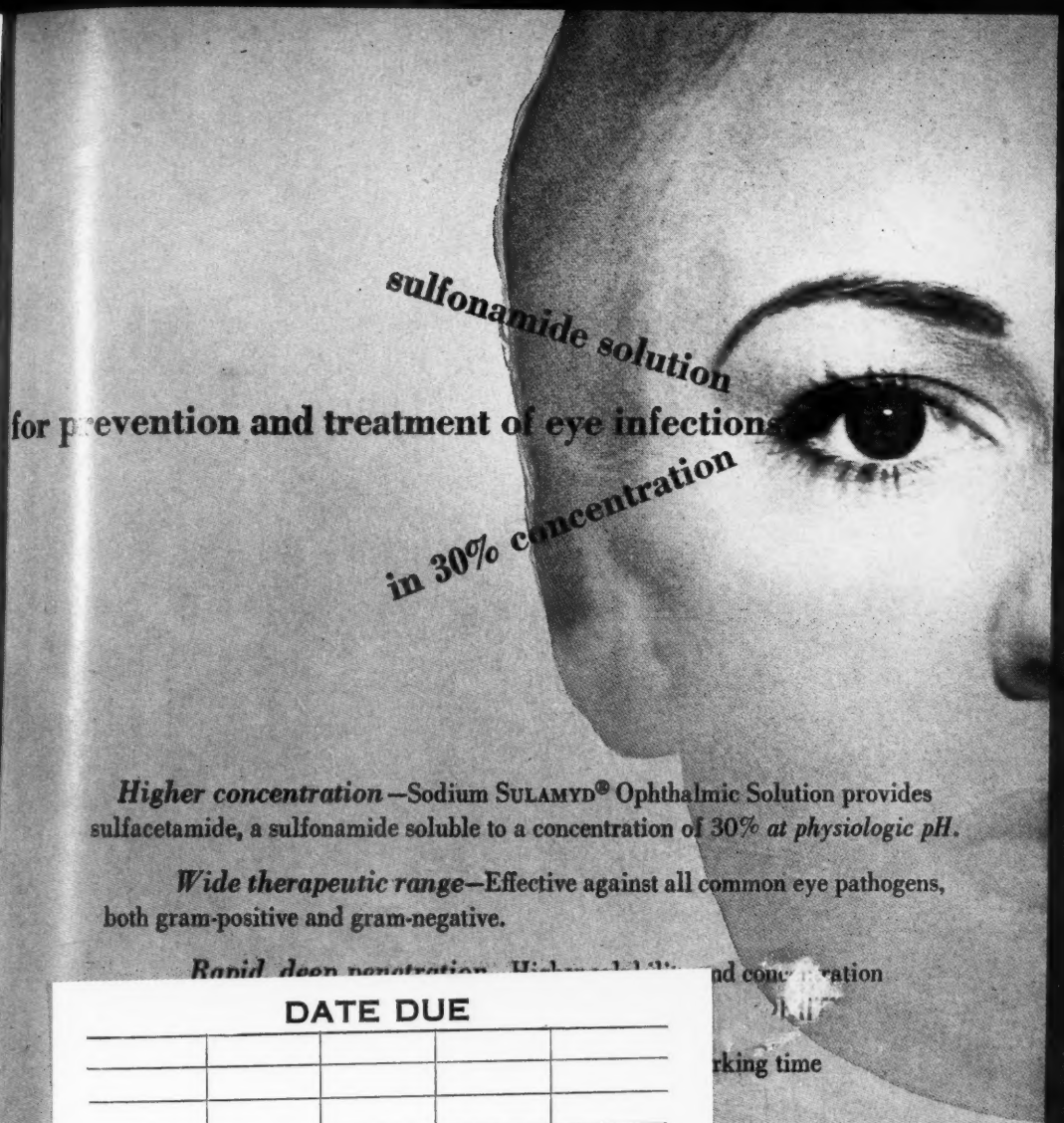

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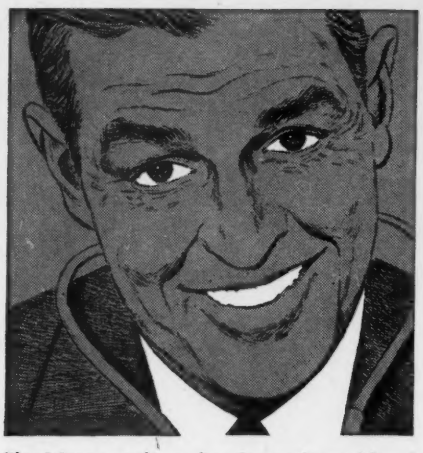

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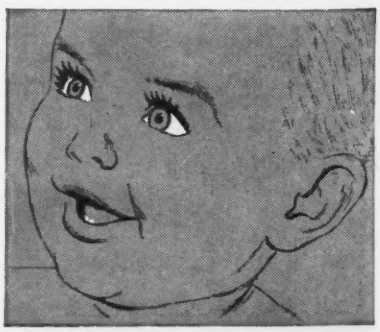
*Frost, L. H., and Jackson, R. L.: Growth and Development of Infants Receiving a Proprietary Preparation of Evaporated Milk with Dextri-Maltose and Vitamin D, J. Pediat. 39:585-592 (Nov.) 1951.



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